CHILE

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Wealth brings changing priorities

John Paul Rathbone considers the reasons behind popular unrest in a country with a reputation for stability


President Piñera: 'When you are poor, you worry about food and shelter. As you grow richer, other things become important: education, health, the environment' Charlie Bibby

Over the past 20 years, Chile has gained a reputation for stability. Once the poorest "Captaincy General" of Spain's colonial possessions, last year it joined the rich countries' club, the Organisation for Economic Co-operation and Development.

It has come to be known for having South America's best managed economy, and has undergone a largely peaceful transition to democracy after the dictatorship of Augusto Pinochet ended in 1990.

But over the past few months, a country sometimes known as the "Switzerland of Latin America" has started to behave more like protest-engulfed Greece or Spain.

On August 25, more than 100,000 students took part in a march in Santiago demanding free education and other reforms. This degenerated into pitched battles with the police, who then doused the capital's streets with tear gas.

Housewives have banged saucepans in support of the student cause. And at the end of August, the country's largest trade union confederation sought to bring Chile to a halt in a two-day general strike – the most ambitious stoppage since the late 1980s.

What has changed? It is just 19 months since President Sebastián Piñera took office. And it was only last October that the first elected centre-right president in five decades led a triumphant rescue of 33 miners trapped in a collapsed mine shaft.

Amid the euphoria, with his popularity topping the charts, Mr Piñera claimed Chile was "a healed country".

Now, at just 22 per cent, his poll ratings are in the dumps.

Furthermore, the surge in public protests has led some to wonder if the country might be on the brink of a "Chilean spring" and if its much-vaunted free market economic model is bust.

"The Chilean model is not broken, but it does need adjustment," Mr Piñera says.

"That's only natural. When you are poor, you worry about food and shelter. As you grow richer, other things become more important: the quality of education, health, the environment."

In many ways, Mr Piñera is right – and the critics of Chile's democratic free-market model are wrong. Even a quick glance at the figures shows that living standards are much improved.

Despite a devastating earthquake in early 2010, the economy grew by more than 5 per cent last year, and more than 8 per cent in the first half of 2011.

Unemployment is near record lows, and real wages are rising.

The country's biggest companies are well-managed, in good health and expanding abroad: Lan, an airline, has the fifth largest market capitalisation of any in the world and is about to get bigger still when its merges with Brazil's Tam.

Chile also is better insulated than most, should the global economic picture grow gloomier. True, it is the world's largest producer of copper, the price of which could fall sharply if fears of a global recession take hold.

Yet the country also has no sovereign debt to speak of, and has almost $20bn stashed in sovereign wealth funds abroad.

"Chile has a huge ability to implement stimulus spending," notes Rodrigo Aravena, chief economist at Banchile, a bank.

Most Chileans seem to recognise their nation's strengths too.

According to Latinobarómetro, a regional pollster, 44 per cent think their democracy works well, twice the Latin America average.

Transparency International's latest corruption perceptions index ranked Chile 21st of 178 countries – ahead of the US and France.

Even so, the protests show that profound problems remain and, although they have erupted during Mr Piñera's presidency, his government is suffering from an explosion of frustrations that have built up over two decades.

Before him, the centre-left Concertación coalition ruled for a mostly tranquil 20 years. It managed a tricky transition to democracy. It also continued with Mr Pincochet's free market policies.

The fruits of this approach are undisputed. Since 1990, Chile has reduced poverty from 42 per cent to 15 per cent of the population, more than other countries in the region.

Yet even though poverty has fallen, it is also one of the most unequal economies in the world: more than half of national income is earned by the richest 20 per cent of the population, according to OECD figures.

Then, there is the personality of the president himself, which critics say aggravates tensions.

The billionaire ex-businessman is widely recognised as intelligent, driven, hard working and technically competent.

Yet even allies admit his hyperactive managerial style, while it may be appropriate in the business world, can mean he comes across as lacking emotional intelligence and charisma.

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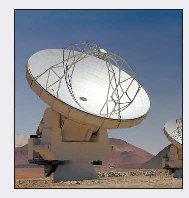

Chile

Steady demand insulates home front

Economy

Consumption is driving healthy growth, writes **John Paul Rathbone**

Felipe Larraín was all smiles after Chile placed a 10-year $1bn bond with international investors in September at a yield of 3.4 per cent.

The finance minister boasted it was the lowest interest rate that the country or indeed any Latin American borrower had ever achieved.

As Mr Larraín has since pointed out, it was also lower than the five-year money that Italy later raised at 5.6 per cent – the highest rate since that country joined the eurozone.

It is a sign of the times.

As an open and commodity-producing economy, which is therefore strongly tied to global growth, Chile will not escape unscathed if the eurozone implodes or the US slips back into recession.

But its domestic economy is well insulated from a global slowdown.

The country has almost $20bn in offshore sovereign wealth funds should its $200bn economy stumble and stimulus spending be required.

Its leading companies also have more cash stashed away in case of a dollar shortage than they did in the first round of the global financial crisis, when liquidity drained from international markets after the collapse of Lehman Brothers in 2008. And the central bank has $37bn in reserves.

Monetary policy provides a further backstop. In 2009, the bank sliced rates to 0.5 per cent and subsequently engaged in quantitative easing – the only South American central bank to do so.

It subsequently raised interest rates to 5.25 per cent, so now has ample room to cut.

That would give a powerful fillip to the economy.

Copper might dominate exports, and its recent record price has made up for declining production. But domestic consumption still accounts for more than half of annual output.

As with Brazil, an important part of Chile's recent economic performance is driven by domestic demand.

The economy is humming. It grew more than 8 per cent in the first half of 2011 and the International Monetary Fund forecasts is will grow 6.5 per cent this year, and 4.7 per cent in 2012.

The exchange rate has appreciated, fuelled by near record prices for Chile's mineral exports. After adjusting for inflation, the peso is about 10 per cent above its 10-year average.

There are some signs that this is producing a bout of "Dutch Disease" – commodity-driven currency appreciation that hurts local manufacturing.

Felipe Larraín, finance minister: Chile will not forgo its fiscal discipline 'by one millimetre' Reuters

Yet complaints by non-mining exporters that the strong exchange rate has affected wine, fish or forestry businesses have been few, perhaps because they are resigned to the fact there is little the government can do.

"We just have to be more productive," shrugs Rafael Guilisasti, vice-chairman of wine producer Concha y Toro.

There are signs that this is happening. In the past year, aggregate productivity has risen 1 per cent, according to Mr Larraín, after falling for several years.

Nationally, Chileans are also feeling richer. More than 500,000 jobs have been created since President Sebastián Piñera took office, and real wages are rising at 3 per cent a year – although food price inflation has hit the incomes of the less well off.

Growing global financial worries have dented the confidence of many middle class Chileans and a credit card scandal at retailer Polar, combined with recent student protests have not helped.

According to Adimark, a Chilean pollster, consumer confidence is lower now than since July 2009.

"Still, if you dig deeper into consumer surveys, they show that Chileans' willingness to spend remains high," says Juan Pablo Castro, senior economist at the Chilean operations of Santander, the Spanish bank.

The ambivalent attitude of the population is reflected in markets too.

Local fixed income asset prices have held up well this year.

That is partly a reflection of creditworthiness: Chile's credit default spreads are tighter than France's.

Private pension funds, which have some $140bn under management and dominate the local fixed income market, have further supported bond prices.

However, equities have taken a drubbing.

All emerging stocks have fallen this year, but student protests have helped slice 24 per cent from Chile's IPSA index – a bigger fall than most. This has eroded

> 'Consumer surveys show that Chileans' willingness to spend is still high'

the ratings premium Chilean stocks usually enjoy, according to local broker LarraínVial.

It estimates that the country's price to earnings ratio had fallen by August to 14.7 times, from 16.8 a few months before – more than other Latin American markets.

Whether the premium shrinks further depends on whether investors believe Chile's institutional framework and reputation for fiscal rectitude is weakening. One sign might be if Mr Piñera's government buckles to student demands for free education.

Nobody in Chile disagrees that a better education system is required. What is in question is how to achieve that.

It has been suggested that a rise in state support could be funded via an increase in corporate taxes to 20 per cent from 17 per cent.

Pablo Longueira, the economy minister has said this is possible, while Mr Larraín, has said it is not required – and that Chile will not forgo its fiscal discipline "by one millimetre".

For the moment, Mr Piñera is tight-lipped. "Tax rates aren't something you announce, they are something you just do at the right time," he says.

Wealth changes nation's priorities

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To run the country like a company is to fail to recognise that "a state and a business are very different," says Eugenio Tironi, a sociologist and author of a new book on Mr Piñera: *Why don't they love me?*

At the same time, his personal fortune, put at more than $2bn by Forbes, combined with a cabinet packed with other wealthy businessmen, has made his government seem out of touch.

When, for example, he first confronted the students' demands for free education. Mr Piñera said: "nothing in life is free".

In a country that already counts on the highest level of private education spending in the OECD, this message rubbed people up the wrong way.

It made him seem like a symbol of heartless capitalism – which is belied by his evidently sincere desire to eradicate extreme poverty by the end of his term.

The president has since sought to stem the protests by setting up a $4bn education fund.

He has also left open the possibility of a permanent rise in the corporate tax rate to 20 per cent, to fund higher social spending.

But this is not enough for the new generation of Chileans that is no longer prepared to put up with the flaws of the country's political and economic systems.

They ensured stability during the transition to democracy. But it also led to a stagnant political duopoly of a near-permanent centre right or centre left coalition.

Meanwhile, Mr Piñera's pro-business stance, combined with a recent credit card scandal at mass retailer La Polar, makes ordinary people feel the economic cards are stacked against them.

"Fear of the dictatorship," says Angelo Alonso, a drama student, "kept everyone quiet for 20 years".

But, like his fellow students and unlike his parent's generation – he adds: "I'm not afraid."

That, as much as anything else, shows that the recent protests are more emblematic of Chile's successes than its failures.

Indeed, there is every chance the country will emerge a better and more prosperous place because of them. "In some ways I am grateful for the protests," as Mr Piñera himself has said.

Energetic, competent – and suffering from a mid-term dip in the polls comparable to those his predecessors experienced – it may also be too early to count Mr Piñera out.

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Both left and right face battle to court young, disenchanted voters

Politics

Jude Webber on a system designed to give stability but that leaves many feeling unrepresented

Presidential ambitions No poverty, no discrimination

President Sebastián Piñera has said he wants Chile to become a developed country by 2018. "Developed" can be a vague term. What does it mean?

One measure is per capita gross domestic product. Currently, Chileans earn an average $15,000 a year. Bringing that up to the level Portugal is at today would require a rise to $22,000.

This would entail annual economic growth of 6 per cent, which is Mr Piñera's target.

Yet development "means much more than that," insists Mr Piñera.

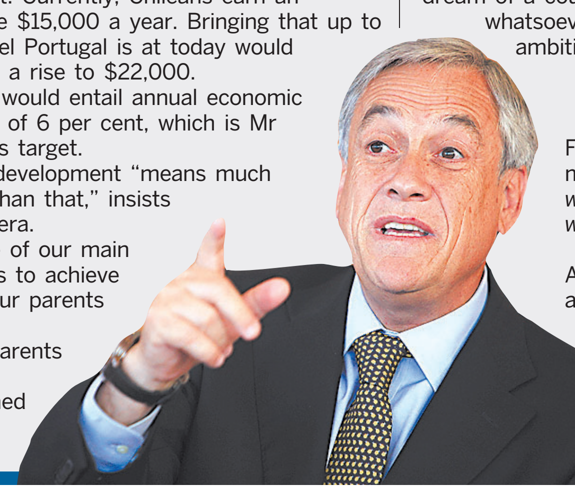
"One of our main goals is to achieve what our parents and grandparents always cherished but never accomplished: to transform Chile into a developed country with equality of opportunity, without poverty."

Furthermore, in a country known for its social conservatism, Mr Piñera has a "dream of a country with no discrimination whatsoever". It is perhaps his most ambitious task.

John Paul Rathbone

For the FT interview and more on Mr Piñera, go to: *www.ft.com/pinera-2011* and *www.ft.com/pinera-superman*

An interview transcript is also available at *www.ft.com/chile-2011*



Piñera's target is economic growth of 6 per cent a year

Why don't they love me? The title of a new book about Sebastián Piñera, arguably the least loved president in Chilean history, hits the nail on the head.

An intellectual high-flyer with a Harvard PhD, a record for spotting golden investment opportunities and a colossal fortune, Mr Piñera has presided over 19 months in which the economy has galloped ahead and 500,000 jobs have been created. He has championed populist measures such as cutting pensioners' social security dues and extending maternity leave.

Yet his approval ratings have sunk to a low of 22 per cent, a record for any Chilean leader. Gloom – heightened by an aircraft crash last month in which the country's best loved TV personality was killed – seems to have settled.

It is a far cry from a year ago, when the president's popularity topped 60 per cent and Chile was shining in the global spotlight after the miraculous rescue of 33 trapped miners, just months after a devastating earthquake.

It is scant consolation for Mr Piñera that the opposition Concertación coalition, which governed Chile from the end of Augusto Pinochet's dictatorship in 1990 until 2010, is in even worse shape, with 17 per cent approval ratings.

"He has no emotional intelligence. People don't like him. The economy could be growing at 10 per cent and people still wouldn't like him," says one former minister, now in opposition.

Four months of widespread street protests, first against a hydroelectric project, and then to demand education reform, have brought into sharp focus a crisis of representation.

In some ways, the country's political stability – which is precisely what set it aside from the rest of a turbulent region – is the cause.

The electoral system keeps a duopoly of two big coalitions in thrall to each other – obliging political parties to work together.

Reform would require many lawmakers to vote themselves out of a job. This means a number of bills to overhaul the so-called binominal system dating back to the Pinochet era have been stalled in Congress for a decade.

"The political model has been exhausted, but it's not clear what is going to replace it," says Gabriel Gaspar, a former Concertación diplomat and official, who fears a stalemate in which each side systematically blocks the other.

More than a quarter of the population – or 4m Chileans – do not bother to vote and both left and right face an uphill battle to court the young voters who are the most disenchanted.

The left "has lost its flag," says Eugenio Tironi, author of *Why don't they love me?* Just as the left picked up and ran with the free-market policies inherited from Pinochet, laying the foundations for Chile's lauded fiscal prudence, "the right has grabbed the flag of welfare", he says. However, many Chileans believe Mr Piñera is not being sufficiently generous.

Mr Piñera has shown courage – backing civil unions for gays despite opposition from the religious right, for example.

But his is also the kind of "lone wolf" mentality of the trader he once was.

> 'The political model has been exhausted but it is not clear what is going to replace it'

When he decided to meet student leaders, his education minister is said to have heard about it on the radio.

Laurence Golborne, the public works minister and a rising star with ratings of 70 per cent, has the touchy-feely qualities Mr Piñera lacks and is emerging as one of the centre-right's best re-election hopes.

A guitar-playing independent, he rose to prominence for his sensitive handling of the mine rescue when he was mining minister. He has a down-to-earth appeal, comes from a middle-class family and his background as a retail executive means "he has customer satisfaction on the brain and will always say what people want to hear," according to Tomás Mosciatti, a commentator.

After two decades of centre-left government, "it is fundamental for [Mr Piñera's] Coalition for Change to be re-elected. If it isn't, I think the country risks getting stuck," Mr Golborne says, playing down his own aspirations. "We'll have to work hard to convince people."

Andrés Allamand, the defence minister who coordinated the air tragedy rescue efforts, is another face to watch on the right.

But only Mr Golborne comes close to the stellar appeal of Michelle Bachelet, Concertación's last president, who is serenely above the fray as the head of UN Women in New York. Her finance minister, Andrés Velasco, is willing to stand in a Concertación primary.

Mr Piñera is unused to failure. "We are convinced we are doing what has to be done," he tells the FT. "Don't judge us by our intentions, but by our results."

Sterile spot is ideal to search for life

Astronomy

Gideon Long on two gigantic telescope projects under way in the Atacama Desert

When Hollywood director Marc Forster chose Chile's Atacama Desert as a backdrop for his James Bond film *Quantum of Solace*, he did so, he said, because its sterile, unforgiving landscape reflected Bond's stony, emotionless character.

And yet, amid the lifeless rocks and sand of the Atacama, two gigantic projects are under way that are all about life: on planets other than our own.

The first is the Atacama Large Millimeter Array (Alma), soon to be the most powerful network of radio telescopes in the world.

Engineers have assembled the first of 66 enormous radio dishes on the Chajnantor plateau, near the border between Chile, Bolivia and Argentina at a breathtaking altitude of 5,000m. All the dishes should be in place by 2013.

The second project is the construction of the European Extremely Large Telescope (ELT) at the Paranal observatory, where much of the Bond film was shot. Work will begin next year and is due to finish in 2021.

The telescope will be the size of a football stadium with a mirror larger than a tennis court. It will be the world's most powerful eye on the sky.

With these two projects, Chile is cementing its reputation as an astronomer's paradise. If life is discovered elsewhere in the universe, there is a very good chance it will be spotted from here.

"By 2020, more than 70 per cent of the image and data collecting power in the world will be here in Chile," says Massimo Tarenghi, director of the Santiago office of the European Southern Observatory (ESO), which is involved in both projects.

Tim de Zeeuw, head of ESO, says Alma and the ELT promise to be "as transformational for science as the Hubble space telescope".

The centrepiece of the ELT will be its 42m wide mirror – four times bigger than the mirrors on any existing telescope.

It is impossible to produce a single concave, high-precision mirror of that size, so engineers in Europe will make up to 1,000 small hexagonal mirrors that will be shipped to Chile and fitted together.

The telescope will cost €1bn ($1.36bn) and weigh more than 5,000 tonnes. Astronomers say the images it produces will be 15 times sharper than those sent to earth by Hubble.

So, what is so special about Chile for stargazers?

Much of the reason lies in the desert skies, which are among the clearest in the world.

Altitude is also important, particularly for Alma. Radio telescopes pick up wavelengths from distant space, but the signals are often distorted by vapour in the earth's atmosphere. By building at altitude, in dry air, engineers can get above some of that moisture.

There are other considerations too.

Being in the southern hemisphere, Chile's observatories are not in direct competition with those in the US and Europe that gaze out at different skies.

The country's political and economic stability is also a factor.

If you are going to invest €1bn in a long-term project, there is perhaps no better place in Latin America in which to do it.

"We've always had great co-operation from the government, regardless of which government it's been," says Mr Tarenghi, an Italian who first came to Chile in 1976.

"One of the highlights of this country is the way they support astronomy."

Mr Tarenghi estimates that 20 per cent of the construction investment from big astronomical projects finds its way into Chilean pockets.

The rest goes to high-tech companies in Europe, the US and Asia.

Once the telescope is functioning, the benefits for Chile rise. About 75 per cent of the money spent on operating the observatories stays in the country.

Traditionally, the scientists and engineers who work at Chile's observatories have been European and North American visitors, but that is changing and a homegrown astronomical community is emerging.

Santiago's two most prestigious seats of learning, Universidad de Chile and Pontifical Catholic University of Chile, both offer pre- and postgraduate studies in astronomy, and Santiago's private universities, such as Andrés Bello, are starting to take a keener interest in astronomical research.

"My dream is that the state goes on from here to establish a national institute of astrophysics," says Mario Hamuy, a professor of astronomy at the Universidad de Chile. "That is the logical next step."

But is there anybody out there?

Mr Tarenghi says the new telescopes will help astronomers fill in gaps in their knowledge about the nature of dark matter and the expansion of the universe.

Startlingly, he also predicts they will find evidence of life on other planets within little more than a decade.

"The day that happens – and I forecast it will be before 2025 – it will be a significant event in the history of humanity," he says.

"It will be like Columbus discovering America – another place, another world. Humanity will change. Knowing that we're not unique will alter our view of how important we are."

Simply building these telescopes in the forbidding landscape of northern Chile is a challenge, not least because the area is prone to earthquakes.

But the engineers at ESO insist that even if a big quake strikes, Alma and the ELT will be shaken but not stirred.

Mr Bond would surely approve of that.

Sensitive antennas: the Atacama Large Millimeter Array will soon be the most powerful network of radio telescopes in the world Reuters

Telescopic treats for tourists

Scientists are not alone in flocking to Chile to stare at the stars.

Increasingly, tourists are coming here to crane their necks, gaze up at the heavens and try to learn something about the cosmos.

Visitors to the Paranal observatory in northern Chile need to book in advance and can only visit on the last two Saturdays of every month.

Ever since the James Bond film *Quantum of Solace* was shot there in 2008, it has had an extra allure.

Information on visits can be found at: www.eso.org/public/about-eso/visitors/paranal.html

Further south, visitors can go to the oldest observatory in the southern hemisphere at Cerro Tololo near La Serena in the Elqui Valley.

Guided tours are offered in Spanish and English and last approximately two hours.

Again, you have to make reservations in advance: www.ctio.noao.edu/misc/travel.html

The film *Quantum of Solace* was shot at the Paranal observatory

Perhaps the easiest observatory to visit is Mamalluca, also in the Elqui Valley. Its telescopes are smaller than at Paranal, but still powerful enough to allow you to see the rings around Saturn.

There are nightly visits with presentations by astronomers. Reservations, while recommended, are not always necessary: www.mamalluca.org

The closest telescopes to Santiago, the capital, are at the Andean Astronomical Observatory (OAA), less than an hour's drive away.

Night visitors can look at the universe through nine telescopes, while, during the day, tourists can peer at the sun through three solar telescopes with special filters: www.oaa.cl

Gideon Long

Chile

Mining production is running to stand still

Improving supply

Jack Farchy looks at projects aimed at, and obstacles to, increasing extraction rates

To catch a glimpse of Chuquicamata's future, you must first travel through its past.

The drive round this enormous open-pit copper mine leads from the surface, 2,870m above sea level, where mining at Chuquicamata began a century ago, to the focus of current activity: a small tunnel, half way down the mine's 800m crater, that disappears into the rock.

Chuquicamata – or "Chuqui" – has a special place in Chilean history.

It has produced more copper than any other mine on earth, enriching the nation in the process. Its enormous scale – at 5km by 3km by 1km it is the size of downtown Manhattan – makes it the world's largest open-pit mine.

But it is nearing the end of its life. Every year, the 400 tonne cargoes of rock lugged around it by huge trucks contain less copper.

The rich veins of ore – known by the miners as "roast beef" – have largely been exhausted.

In the first half of this year, its production was 206,000 tonnes of copper, down 21 per cent from the same period in 2010.

Chile's state-owned mining company, Codelco, which runs Chuquicamata, expects it to be almost entirely exhausted by the end of the decade.

Faced with the death of the jewel in its crown, Codelco is undertaking one of the most ambitious projects in the history of Chilean mining.

The company's engineers plan to dig beneath Chuquicamata to transform the world's largest open pit into one of the world's largest underground mines.

So far, they have built just 14km of tunnels, primarily for exploration – compared with 2,400km of tunnels at El Teniente, the world's largest underground mine, which they see as a template.

"It's a great challenge to reach the same production level as Teniente has after 100 years," says José Alvial, one of the project's managers. "But it's a challenge we're trying to live up to."

It is essential that they do. With Chuquicamata and a series of comparably ambitious projects, Codelco is hoping to transform itself. After years as a cash cow for successive governments, it faces the prospect of production at its ageing mines falling by more than half over the next decade.

Now, led by Diego Hernández, previously head of base metals at BHP Billiton, it must invest – in the next 12 years – more money than it has in the past 35.

The result will determine the future of a company that, although little known outside the mining industry, accounts for 11 per cent of global copper output, 16 per cent of Chile's government revenues and is crucial to Latin American-Chinese trade links.

It is also of critical importance to the global copper market.

Analysts believe that failure on the part of Codelco and other mining companies to deliver the projects they have promised could severely restrict the market. This would drive up the price of a metal that is widely used in manufacturing and construction and therefore crucial to the growth of emerging economies such as China, India and Brazil.

> 'Numbers in investment are moving every day because of the market situation'

Despite recent high prices, however, the obstacles to increasing supply are numerous. With many of the country's largest mines in decline, the industry must keep building new ones and expanding, just to keep production constant.

Chilean copper output has barely changed since 2005, according to data from Cochilco, the state copper commission, and in the first half of this year was 4.4 per cent down on 2010.

But building mines is becoming more costly. As record copper prices drive a $72bn investment boom in Chile's mining industry, shortages are developing of everything from water and electricity to trucks, shovels and engineers.

John Mackenzie, chief executive of Anglo American's copper division, recalls that the company struggled to find the 16,000 workers needed for the construction of Los Bronces, a mine in central Chile it plans to open at the end of the year.

Codelco is not immune to such pressures – although executives point out that its sheer scale allows it to be more flexible about moving workers from one project to another. Nonetheless, a project such as the Chuquicamata expansion has its difficulties. "It is almost impossible to put a truck driver in the tunnels," says Mr Alvial. "People are used to seeing the sun."

Juan Carlos Guajardo, director of Cesco, a mining industry think-tank, says he would not be surprised to see Codelco increase its project budget – already $17.5bn – over the next five years. "The support from the government is clear; what is not clear is the ability to realise the projects."

The current projection for the cost of Chuquicamata is $3.8bn – although that has risen from less than $2bn a few years ago. "Numbers in investment are moving every day because of the market situation," admits Sergio Fuentes, the company's head of projects.

Asked if he is confident of sticking to the budget and timeline for the project, Mr Fuentes laconically replies: "Today yes, but tomorrow I don't know."

Energy plans require PR and fat purses

Power generation

Supplies must double in a decade to keep up with growth, writes **Jude Webber**

Rich in the raw materials to produce clean energy but poor in fossil fuels, Chile's mounting power problems look easy to solve.

The world's top copper producing nation needs to double energy supplies within a decade to keep up with economic growth. The need to update electricity transmission lines was also underlined by a big power outage in late September affecting nearly 60 per cent of the population.

However, updating and increasing power supplies will require PR, tactful diplomacy and deep pockets.

Although Chile's neighbours, Peru and Bolivia, have vast gas resources and the advantage of proximity, border tensions lingering from a 19th century war in the case of Bolivia, and a row over maritime limits with Peru, mean both options are off the agenda.

Argentina, across the Andes mountains, used to be Chile's sole supplier of natural gas, but it turned off the taps in 2007-08, after the government decided to redirect the gas to meet soaring domestic demand stoked by artificially low prices.

Nuclear power is not an option – public opinion has hardened since the Fukushima disaster in Japan. This is hardly surprising, since Chile is a highly seismic country and last year suffered one of the world's most powerful earthquakes and a tsunami.

That leaves as options liquefied natural gas (LNG) and coal, more hydroelectric power, or renewable sources such as geothermal, wind, wave and solar energy. Each is problematic, but none more so than harnessing the power of the nation's powerful southern rivers.

Hydroelectric power accounts for about a third of Chile's energy, while fossil fuels make up nearly two-thirds, according to the Rodrigo Alvarez, the energy minister.

The government of Sebastián Piñera has backed plans by electricity generators Colbún and Endesa to build five hydroelectric plants at a cost of more than $3.2bn, on two picture postcard rivers in the pristine region of Patagonia.

The HidroAysén project is expected to generate 2,750MW of power by 2025, boosting by a quarter the capacity of the main SIC electricity grid that serves 90 per cent of population.

Ecologists are scandalised and some 30,000 people took to the streets in mid-May after the project won environmental approval.

Riot police with tear gas were deployed to break up the biggest demonstrations in recent memory – that is, until student protests erupted shortly afterwards.

The project is now on hold, pending legal challenges but Daniel Fernández, executive vice-president of HidroAysén, says: "By the end of the year, we expect it all to be approved. It is clear this project is necessary."

Even if the power plants get the green light, a colossal battle is looming over the 1,927km of pylons to deliver the power from the plants on the Baker and Pascua rivers to the grid.

HidroAysén points out that the towers are about a third of the size of wind turbines, but ecologists are already running an emotive campaign showing pylons in front of images of outstandingly beautiful Chilean landscapes – including some, such as the Torres del Paine mountains, which are nowhere near the project.

It is a classic situation of both sides being right: HidroAysén will indeed have an environmental impact, though the company says the area to be flooded is less than a 10th of the size of the Belo Monte dam in Brazil, and generation will be among the most efficient in the world.

And it will be an eyesore, though the trade-off is cheap, clean power as Chile seeks to become a high-income country.

While the HidroAysén battle has been raging, 20 coal-fired plants, the dirtiest of all energy sources, were approved without any opposition, according to brokerage LarrainVial.

> Nuclear power is not an option – public opinion has hardened since the Fukushima disaster in Japan

"Without HidroAysén the lights won't go off in Chile, but what will happen is what always has – thermal power plants will be built. Chile will continue to be dependent on expensive, environmentally unfriendly energy from abroad," says Mr Fernández.

He calls it an "aberration" that two-thirds of power comes from gas, coal or diesel "in a country that has practically no gas or coal".

Chile has built two LNG facilities, one of which, in the north, serves the mining industry, after Argentine gas was switched off.

But analysts say it is paying some $13.5 a million British Thermal Units for LNG, more than triple the US reference price, in part because LNG has to make a big detour to get to Chile.

Which leaves renewable fuels. The government is committed to generating 10 per cent of the country's electricity from "green" sources by 2024.

"We are willing to study more ambitious goals," says Mr Alvarez.

But aside from small hydro projects, which count as renewable if they generate less than 20MW, other renewable sources are embryonic and costly.

And Chile needs an extra 8,000MW by 2020. "We face an immense challenge," says the minister.

Country's confidence is etched in copper

Metals market

The commodity makes up 20 per cent of GDP but its price is set 7,000 miles away, reports **Jack Farchy**

There is not a single copper miner listed in the Santiago stock exchange blue-chip IPSA index. Yet, over the past two decades, its performance has doggedly tracked the red metal's price – which is set 7,000 miles away on the London Metal Exchange.

That bizarre correlation demonstrates the importance of copper to the Chilean economy. The metal accounts for more than 50 per cent of exports, 20 per cent of GDP and employs more than 200,000 people.

But over and above its physical significance, the value of copper has great psychological influence on consumer and business confidence.

"Chile is a puppet of copper prices," says Leonardo Suárez, chief economist at LarrainVial, a local brokerage. "It's all about confidence. If copper falls, the peso tumbles and the rest of the economy tumbles."

The relationship has been painfully clear in recent weeks.

After hitting a record of $10,190 a tonne in February, copper had remained at historically high prices above $8,500. But in September it began to slide, dropping below $7,000 to its lowest in more than a year and causing a strong sell-off in both the peso and the stock market.

The question of where the copper price will move from here is the subject of fierce debate among investors, analysts and traders.

Bulls argue that continued strong demand from China will keep prices elevated, while bears point to the problems in the US and the eurozone and bet on a sharp correction.

The outcome is of critical importance to the economy. It is also likely to influence the political trajectory of the country.

The mining sector, including state-owned Codelco, contributed more than $10bn to state coffers in 2010, or 25 per cent of government revenues. And with rising prices and new royalties, that figure looks set to rise significantly this year.

However, in recent weeks the copper market has been flashing a warning. A growing number of investors and traders now believe the metal is in line for a sharp fall in price, as the debt crisis in the eurozone, fears of a recession in the US, and a slowdown in growth in China sap demand.

Indeed, betting against the red metal has become a favourite trade for some hedge funds, who believe it could have further to fall than other commodities in the event of a global recession.

The rationale is that, unlike some other commodities, the price of copper – even after the recent sharp falls – is trading a long way above the cost of mining it.

If consumers stop buying, that means it could fall a long way – all the way, according to bearish investors, to the cost of production for the highest-cost miners, which analysts reckon stands at about $5,500 a tonne.

David Wilson, metals analyst at Société Générale, says: "We believe that current price levels will become increasingly difficult to sustain in the face of a clearly deteriorating macroeconomic environment, and slowing global copper demand growth."

Valuable cargo: a loaded train leaves Chuquicamata, the world's largest open-pit copper mine Reuters

The concerns have been exacerbated by scattered reports of a fall in demand.

Tom Albanese, chief executive of Rio Tinto, told the Financial Times last month that demand for commodities had slowed.

"It is noticeable that markets are somewhat weaker," Mr Albanese said. "In a few cases, customers are asking to reschedule deliveries. This is consistent with customers being cautious about the current state of business."

> 'We believe that price levels will become difficult to sustain in the face of a deteriorating macroeconomic environment'

The good news for Chile, however, is that most analysts, traders and mining executives remain bullish on the longer-term outlook. Despite skittishness, the physical copper market remains fairly strong, traders say.

Crucially, there are few signs of a large slowdown in demand from China, which consumes 40 per cent of the world's supply. Buyers in the country have been running down their inventories throughout the year, which means that they have little ability to delay purchases.

Many believe that the only thing that could derail the copper bull market is a crash in the Chinese economy.

Duncan Hobbs, metals analyst at Macquarie, the Australian investment bank, says that even with zero growth in Europe and the US this year and next, demand will still outstrip supply, if China sees copper demand grow by 6 per cent, as the bank predicts.

On the supply side, despite enormous investments in new projects, miners are struggling to boost production, hampered by rapidly escalating costs, strikes, bad weather and lower levels of copper in the ore they are mining.

Production in the Chilean mining sector – which has historically supplied about a third of the world's copper – fell 4.4 per cent in the first half of the year from the same period in 2010.

Until production accelerates, few expect a sustained fall in prices. That many happen from 2013, when analysts believe a series of new mines and expansions will come into production.

But, as Mr Hobbs notes, a wave of new supply has been predicted ever since the price began to soar in 2004.

"Mine supply has repeatedly disappointed expectations in recent years and, if this continues, the balance in the market will remain tighter for longer," he says.

Student protests have focused on crucial area for reform

Guest Column

VITTORIO CORBO

In the past 30 years, Chile has carried out important and substantial economic reforms.

These included strengthening macroeconomic stability, creating a sound financial system, promoting a more open and competitive market economy, the partial deregulation of labour markets, the substitution of the underfunded and much abused pay-as-you-go pension system for a privately administrated pension scheme, and the targeting of public expenditures towards the poorest groups.

The results have been impressive in terms of growth and improvements in social indicators. It is the only big country in Latin America which, in the past 35 years, has improved its relative per capita gross domestic product with respect to the Organisation for Economic Co-operation and Development average.

It has also made important progress in social indicators, including child and infant mortality, life expectancy at birth, access to drinking water, sewerage and electricity.

Studies show the improvement in social indicators is mostly to be explained by the increase in per capita income, helped by the targeting of public expenditure on the most disadvantaged.

Furthermore, as shown in the global financial crisis of 2008-2009, the resilience of the economy has improved substantially. When the crisis hit and foreign trade collapsed in late 2008 and early 2009, aggressive countercyclical fiscal and monetary policies cushioned the external shock on GDP and on the poor.

This response was made possible by the strong macrofinancial framework built in previous years, which includes a rule-based fiscal policy that has resulted in a single-digit gross government debt-to-GDP ratio; an independent central bank, which has implemented a credible inflation-targeting framework with a flexible exchange rate; and a strong financial system.

However, in spite of all this progress, the country faces two big problems.

First, the strong growth of the past 35 years has lost steam in the past decade. Indeed, the real per capita GDP growth rate of 2001-2010 was only 2.5 per cent, well below the 6.6 per cent of 1985-2000.

In particular, total factor productivity growth – the broadest measure of how well an economy puts its resources to use – has been negative in recent years.

A second problem is the slow progress in reducing income inequality, in spite of the improvements in per capita income and social indicators.

The most generally accepted explanation for this productivity growth slowdown is that reform has stalled. That is a reflection of greater emphasis on social policies and the difficulties in achieving consensus on second-generation reforms.

Education reforms, for example, are central to improving income equality.

> The poor quality of public education reduces growth by restricting the availability of an educated workforce

Although much has been accomplished in the past 30 years, big problems exist with the quality of pre-tertiary education in schools run by municipalities and private providers with a subsidy from the state.

The poor quality of public education reduces growth opportunities by restricting the availability of an educated workforce and is also one of the causes of the slow improvement in income distribution.

Students attending these lower quality schools are mainly from the poorest 60 per cent of households. Their schooling fails to overcome the opportunity gap arising from the socioeconomic background of their parents.

Given the central role of the workforce in the determination of income in an open market economy, these differences in the distribution of human capital end up slowing improvements in income distribution.

Even though there is scope for improvement at every level of the system, the problems are not the same throughout.

In pre-tertiary education, the deeply rooted issues have been attributed to school management; quality of staff; barriers to teacher evaluation, performance-related pay and promotion and inadequate funding.

In tertiary education, there has been much progress in terms of coverage (70 per cent of students are first-generation participants) but there are problems of quality, tuition costs and the availability and cost of public funding.

But the central problem is that students who complete their secondary education in state schools perform poorly in admission tests. Therefore, their access to top universities is severely restricted and they end up in poor quality public or private universities. This severely reduces their opportunities.

Thus the student protests of the past four months have focused the political debate on an area where Chile was lagging. Properly designed and implemented education reforms may remove one of the most important obstacles towards higher growth and a more equitable society.

Vittorio Corbo was central bank president, 2003-2007

Entrepreneurial aspirations: Santiago, Chile's capital Dreamstime

Innovation Incentives to import ideas

Got a brilliant business idea? Go to Chile, writes **Jude Webber**.

In an attempt to transform the skinny Pacific Rim country into the innovation hub of Latin America, the government is offering entrepreneurs $40,000, one-year visas issued in a day, fast-tracked paperwork to allow them to open bank accounts in a fortnight, and six months to get their business going.

"We see Chile as the place to go global from," says Jean Boudeguer, executive director of Start-Up Chile.

Many entrepreneurs may have their sights set on the US but struggle to get visas, so Chile can act as a convenient stepping stone, he says. It is also an "in-between" place – an emerging market country where "not everything works, but it's not as hard as going to the middle of India".

Start-Up Chile started last year and targets early-stage entrepreneurs whose businesses are typically either still at the planning stage or less than six months old. It has 109 entrepreneurs already in Chile has just selected another 154, who are due to arrive by January.

Projects include software, e-commerce and energy. Many entrepreneurs hail from the US, Brazil, Canada and India, but some have been chosen from as far afield as Estonia, Zimbabwe and Malaysia.

Chile – whose president, Sebastián Piñera is a self-made billionaire – is improving incentives for businesses.

It now takes 15 days to set up a company, but the aim is to slash that next year to just two, and to make it faster to close one, says Mr Boudeguer. The corporate tax rate – at 20 per cent – is relatively low and, says Felipe Larraín, the finance minister, small businesses that reinvest their earnings pay no tax.

Mr Boudeguer says: "We are not asking companies for equity. We ask them to promote entrepreneurship and change the way of thinking – by mentoring another start-up, or giving talks to universities. The first mission is to build a company; the second to change the entrepreneurial environment."

Start-Up Chile aims to have 1,000 entrepreneurs on its books by the end of Mr Piñera's term in 2014.

Beware the middle income trap

Comment
MARTIN SANDBU

If there is such a thing as a middle income trap, Chile should be running into its net at full speed.

The country has an enviable growth record. But the hard part is still to come, according to the latest hot conversation topic in global economic development circles.

This is the statistical finding that once a country reaches a certain per capita income level, growth tends to slow sharply.

Different studies find different thresholds for where growth tapers off, ranging from $8,500 to $18,500 at 2010 prices, adjusted for purchasing power parity.

At $15,000, Chile's economic output puts it right in the middle of where this middle income trap supposedly springs.

Whether the nation can avoid it matters not only for the prosperity of Chileans. It will also determine president Sebastián Piñera's ability to improve his abysmal popularity ratings.

He has staked his legacy on making Chile a developed country by 2018, defined as per capita GDP of $22,000 – where Portugal is today.

That goal is only achievable if the economy grows consistently at close to 6 per cent a year.

Foreign investors and exporters to Chile should also worry about the middle income trap.

If the middle class stops growing, so does the market for its consumer trappings.

With the end of market expansion, the appeal of the country as an economic model could evaporate too.

So what is the middle income trap? The idea is really an aberration.

The postwar understanding of how economies grow rich can be summed up in one word: convergence. So long as enough capital was invested, poorer economies should be able to catch up – converge – with the most productive countries by adopting their technologies.

Western Europe quickly rebuilt itself. But among countries that had always been poor, only a handful joined its ranks: chiefly Japan and the "newly industrialised countries" of east Asia.

For others – including Latin America – convergence fizzled out once a middling GDP level had been reached.

Joaquín Vial, chief economist for South America at BBVA, a bank, points out that by the second half of the 20th century, most of the continent had already reached middle income status.

Then came soaring inflation, trampling of democracies and, more often than not, economic stagnation.

> Chile cannot grow much more without productivity growth. For that it needs an educated workforce

The most likely economic reason for abrupt slowdowns is that the growth that brings you out of poverty is not the growth that makes you rich.

The former is achieved by accumulating productive resources and bringing people from the countryside to the (more productive) cities, and investing enough capital.

But as your resources grow, the marginal return on them falls unless you squeeze more production out of a given quantity of resources.

The difficulty of shifting from accumulation-driven growth into productivity-driven growth can trap an economy at a comfortable, but stagnant income level.

This sort of analysis applies to Chile in a straightforward way. Output was long driven by accumulating labour through urbanisation in the 1950s and 1960s, and capital and skills in later decades.

But on the broadest measure of how well an economy puts its resources to use – total factor productivity (TFP) – Chile's record is disappointing.

Felipe Larraín, finance minister, is fond of pointing out that TFP growth was negative under his admired predecessor, Andrés Velasco.

Yet, when you ask Chileans about the middle income trap, they are more likely to offer political explanations.

Both sides of the political divide exhibit a striking concern that mass involvement in politics can lead to policies that strangle growth.

In part, this is history at work: one need not be a Pinochet apologist to note that flawed policies contributed to economic chaos when Salvador Allende attempted to favour the poor.

This history encourages analyses of growth prospects to be seen in the light of political turmoil.

With clear reference to the current student protests, Mr Larraín says middle income status encourages an emphasis on rights rather than hard work: "Expectations increase and you want everything now".

But the hypothesised economic causes of middle income growth slowdown would be present in Chile even if the politics were more harmonious.

In one sense, however, the political point is central. Chile cannot grow much more without productivity growth. For that it needs a well-educated workforce, something the country's politics has been incapable of achieving.

If Chile stagnates at middle income levels, it will have been trapped for the normal economic reasons. But, as the fights and failings in education policy show, the way out of the trap will be riven by politics.

Companies spread their wings abroad

Mergers

Jude Webber considers deals in the airline, banking and wine sectors

Chile's economy has long been open to the world. Now, its companies are taking advantage the fact with a string of cross-border deals.

The biggest is airline Lan's takeover of Tam of Brazil, which has just been cleared by Chilean competition authorities, albeit with strings attached, including opening some slots to other carriers.

Lan, in which Sebastián Piñera, the president, was a big shareholder until early last year, operates a business model that is cargo-led, enabling it the better to ride out economic cycles.

Its excellent reputation, added to Tam's reach, will make the new entity Latin America's leading airline and one of the biggest in the world, with more than $10bn in revenues.

One final approval is still required in Brazil, and Lan could challenge some of the conditions imposed by the Chilean authorities, but it expects the multibillion dollar all-stock transaction, worth about $2.7bn when it was announced last year, to be complete by the first quarter of 2012. The Lan-Tam deal is described as a merger, but is really a purchase by the Chilean group.

Conversely, a merger between BTG Pactual, the Brazilian investment bank that sees itself as the Goldman Sachs of Latin America, and Chile's Celfin Capital, is more of a Brazilian buy.

BTG had been looking at Chile for a long time and Celfin for buyers. But this is more than just a marriage of convenience – Latin America's first cross-border investment bank will have reach and power, with a presence in Brazil, the US, the UK, China, Chile, Peru, and Colombia, and $70bn of assets under management. The price tag has not been disclosed.

Winemaker Concha y Toro is already Latin America's leading producer. International expansion has taken it further afield.

The 128-year-old company prides itself on being one of the world's most powerful brands, with a portfolio including the Casillero del Diablo, Marqués de Casa Concha and Don Melchor labels, and it was the first winery to be floated on the New York Stock Exchange in 1994.

This year, it bought Fetzer Vineyards of the US, whose Fetzer label is one of the top US brands by volume and whose Bonterra brand is a strong selling US organic wine.

The deal, worth $238m, was the largest investment by a Chilean company in the US.

Concha y Toro has bought Fetzer Vineyards of the US

Familiar tale of easy credit and spending

Retail

The impetus to buy is everywhere, writes **Jude Webber**

Eliana used to work as a cleaner in Santiago. With two children to support, she found department store credit cards "a really big help".

Soon she had eight and had racked up debts, inflated by interest, of 10m pesos ($20,000). "It got out of control. I was ill – I was getting constant threats," she said. She finally fled Santiago for the south, leaving her unpaid bills behind.

The problem, she says, is that credit has been too easy to come by. "The stores were practically giving the cards away on every street corner, in the metro. But people don't think – that was what happened to me," she says.

It was Sebastián Piñera, the country's billionaire president, who introduced credit cards in the 1970s. He has pledged to lay the foundations to make Chile a"developed" nation and to lift per capita income to $22,000 by 2018 from $15,000 now.

Aspiration is the order of the day. Get promoted, and your colleagues will expect you to turn up to work in a new car.

The impetus to spend is everywhere, whatever your income and despite the risks of being blacklisted by Dicom, the private credit-rating agency, which can scupper your chances of renting a flat or getting a job.

Household debt-to-income levels were about 70 per cent at the end of last year, but the central bank sees no big problem and says people spend on average just over 10 per cent of their salaries on long-term debt repayments.

Chileans have an average of 4.5 cards each and there are 21m mobile phones in the country, more than its 17m people.

The consumer boom of the recent years has offered credit to people who previously had little access. Banks are full of posters exhorting customers not to delay that holiday or engagement ring, but to take out a loan.

Big retail groups, such as Falabella, Cencosud and Ripley, have competing department stores, supermarkets, banks, home improvement shops and travel agents, ensuring people rarely lack opportunities to spend. They can pay in instalments, albeit with hefty interest.

In fact, well-heeled shoppers can end up buying goods more cheaply, simply because they can afford to pay one-third of the purchase up front, with the remainder over the next two months. "You only pay interest if you're poor," says Lorena Pizarro, a retail analyst at asset manager MBI in Santiago.

A big fraud scandal that erupted earlier this year at La Polar, a department chain catering for lower-income shoppers, sent shockwaves through the financial system and highlighted the hidden costs of living on credit. Executives had repackaged 475bn pesos of overdue credits without telling either the 400,000 customers affected, or the board.

The government has since moved to tighten regulation and lower interest rates, and has taken Walmart, the US supermarket group, to task after discovering more than 11,000 clients were still on Dicom's blacklist, even after renegotiating their debts.

Retail has also become a big Chilean export, as the leading chains have moved into Peru, Argentina, Colombia and Brazil as well as innovating at home.

Cencosud has recently opened "virtual" mini shops on the platforms of two metro stations in Santiago, allowing commuters with smartphones to scan in orders for a limited range of staples while waiting for their train.

However, despite the fast growing economy – which is expected to expand by as much as 6.75 per cent this year, according to the central bank's latest estimates – consumer confidence is lacklustre.

Adimark, a pollster, found confidence in August at its lowest for nearly two years, as worries about bleak world economic times, inflation and the effect of protests and strikes appeared to be taking their toll.

Home and away: domestic chains have expanded abroad Alamy

Salmon industry Leaping towards recovery

In Chile, fish-farming is largely synonymous with farming salmon.

The country is the second-biggest exporter of the fish in the world, after Norway.

Last year, salmon accounted for 58 per cent of Chile's fish exports and 3.6 per cent of total exports.

Salmon farming is the nation's fourth biggest export industry after mining, forestry and fruit.

As its name suggests, the Atlantic salmon is not native to Chile's Pacific coast. But since it was introduced in the early 1980s, it has taken to its new home like, well, a fish to water.

The southern city of Puerto Montt and the island of Chiloé have enjoyed a salmon boom.

But the industry is recovering from considerable setbacks.

In July 2007, it recorded its first case of infectious salmon anaemia (ISA), a virus that does not affect humans but spreads like wildfire among fish. Millions of salmon were culled and fish pens were sanitised.

Many producers were debt-laden young companies that had grown very quickly – too quickly, some say – and had to negotiate bail-outs with Chile's banks.

The industry has yet to recover to pre-ISA levels, but is getting there.

It has weathered adverse publicity about its heavy reliance on antibiotics and is regaining market share.

Salmon farming aside, Chile's extraordinarily long coastline (4,300km) allows for one of the largest wild fish catches in the world, although it has diminished alarmingly from a peak of more than 7m tonnes a year in the early 1990s to about 3.5m tonnes now.

The fishing industry, salmon included, generated exports of $2.8bn in 2010.

Net profits: Chile is the second-biggest exporter of salmon in the world, after Norway

A rash of recent mergers means commercial fishing is dominated by six companies, headed by Orizon and Corpesca, subsidiaries of the Angelini group, a Chilean conglomerate.

The industrial fleet competes with vibrant local vessels, as well as with the huge Chinese and European factory trawlers that prowl the waters just outside Chile's 200-mile economic exclusion zone.

Gideon Long

Mature sector seeks fresh growth abroad

Profile
Forestry

Big companies are venturing across the Andes, says **Gideon Long**

About a fifth of Chile's surface area, or 16m hectares, is covered by trees, most of it native woodland.

Of that, some 2.3m ha are given over to plantation, in the south-central part of the country.

Pine and eucalyptus are the predominant species; Arauco, CMPC and Masisa the industry leaders.

Wood and wood pulp exports grew rapidly in the past decade, hitting a peak of $5.6bn in 2008,– double the 2003 level.

The downturn in global house building in 2008-09, particularly in the US, hit Chilean timber sales hard, but they are recovering.

And the wood pulp industry is also growing again – it accounts for about 7 per cent of world supply.

As the industry has matured, foresters have increasingly looked abroad. That is partly because local land prices have risen and partly to do with economies of scale.

Companies such as Arauco and CMPC have outgrown home markets and are venturing across the Andes to the wide open spaces of Argentina, Uruguay and Brazil.

Arauco, the world's second-biggest manufacturer of wood pulp behind Brazil's Fibria, now has 130,000 ha under plantation in Argentina, 74,000 in Brazil and 68,000 in Uruguay, where it is involved in a joint venture with Stora Enso, Europe's biggest paper producer.

"We have now started construction of a pulp mill in Uruguay, and that's an investment of $2bn," says Charles Kimber, Arauco's director of corporate affairs and marketing.

R&D is crucial. Chilean researchers have helped develop a strain of eucalyptus suited to the country's cool southern climes, as well as a pine tree that grows straighter than traditional pines, allowing more wood to be used and less wasted.

Energy is another area of interest. Arauco already uses wood chippings and pulp by-products to produce electricity to power its plants, and even sells a surplus to the national grid.

The country's foresters are also experimenting with wood, as opposed to corn or sugarcane, to make ethanol.

Fruit farms A grower's paradise

Chile's length and geographical location mean its fruit farmers can grow almost anything, depending on where they are.

From citrus fruits in the semi-desert regions of the north to berries in the lush forests of Patagonia, it is a grower's paradise.

It is the world's leading exporter of table grapes and plums, the second biggest of avocados and the third-largest exporter of kiwi fruit.

Last year, fresh fruit exports totalled $3.2bn, more than twice the value of wine. In the financial year to the end of August 2011, the country exported 3.2m tonnes of fresh fruit, 7.8 per cent more than in the previous 12 months. Exports within Latin America grew 20 per cent and to Asia 29 per cent.

Chile's distance from markets on other continents is a hindrance to trade in perishable goods – raspberries can quickly turn to mush during a long sea voyage. But its isolation is a blessing in other ways. The Andes mountains on one side and the Pacific Ocean on the other are formidable barriers to pests.

The country also has a counter-seasonal advantage over northern hemisphere competitors. It accounts for almost 60 per cent of fresh fruit exports from the southern hemisphere.

Processed fruits are growing in importance – Chile exports more dried apples, for example, than any other country.

More than half of fruit and vegetable produce is now processed, much of it for the US market. Tomato paste, fruit juices and canned peaches are among the main export products.

Like Chile's other exporters, its farmers have been hit hard by the appreciating peso, which over the first eight months of 2011 averaged 473 pesos to the dollar, its strongest rate in 13 years.

Central bank intervention in January was only partially successful in halting the peso's rise, and farmers are appealing to the government help.

Gideon Long