Fraser Institute Annual

SURVEY OF MINING COMPANIES 2021

Jairo Yunis and Elmira Aliakbari

Table of Contents

Survey Information

The Fraser Institute's Annual Survey of Mining Companies was sent to approximately 2,200 exploration, development, and other mining-related companies around the world. The survey was conducted from August 23rd to November 19th, 2021. The companies that participated in the survey reported exploration spending of US$2.51 billion in 2021 and US$1.79 billion in 2019. The 2021 results from the *Permit Times for Mining Exploration* publication are also included in this year's survey.

2021 Mining Survey—Executive Summary

This report presents the results of the Fraser Institute's 2021 annual survey of mining and exploration companies. The survey is an attempt to assess how mineral endowments and public policy factors such as taxation and regulatory uncertainty affect exploration investment. The survey was circulated electronically to approximately 2,200 individuals between August 23rd to November 19th, 2021. Survey responses have been tallied to rank provinces, states, and countries according to the extent that public policy factors encourage or discourage mining investment.

We received a total of 290 responses for the survey, providing sufficient data to evaluate 84 jurisdictions. By way of comparison, 77 jurisdictions were evaluated in 2020, 76 in 2019, 83 in 2018, and 91 in 2017. The number of jurisdictions that can be included in the study tends to wax and wane as the mining sector grows or shrinks due to commodity prices and sectoral factors. This year's survey includes an analysis of permit times, as did last year's survey.

The Investment Attractiveness Index takes both mineral and policy perception into consideration

An overall Investment Attractiveness Index is constructed by combining the Best Practices Mineral Potential index, which rates regions based on their geologic attractiveness, and the Policy Perception Index, a composite index that measures the effects of government policy on attitudes toward exploration investment. While it is useful to measure the attractiveness of a jurisdiction based on policy factors such as onerous regulations, taxation levels, the quality of infrastructure, and the other policy related questions that respondents answered, the Policy Perception Index alone does not recognize the fact that investment decisions are often sizably based on the pure mineral potential of a jurisdiction. Indeed, as discussed below, respondents consistently indicate that approximately 40 percent of their investment decision is determined by policy factors.

The top

The top jurisdiction in the world for investment based on the Investment Attractiveness Index is Western Australia, which moved up from 4th place in 2020. Saskatchewan continues to be on the podium, going from a rank of 3rd in 2020 to 2nd this year. Nevada, which topped the ranking last year, ranked 3rd in 2021. Rounding out the top 10 are Alaska, Arizona, Quebec, Idaho, Morocco, Yukon, and South Australia. The United States has the most jurisdictions (4) in this year's top 10, followed by Canada (3), Australia (2), and Africa (1).

The bottom

When considering both policy and mineral potential in the Investment Attractiveness Index, Zimbabwe ranks as the least attractive jurisdiction in the world for investment followed by Spain, the Democratic Republic of Congo (DRC), and Mali. Also, in the bottom 10 (beginning with the worst) are Nicaragua, China, Panama, Mendoza, Venezuela, and South Africa. Latin America (including Argentina and the Caribbean) and Africa are the regions with the greatest number of jurisdictions (4) in the bottom 10. Asia, which features once again in our analysis for the first time since 2018, and Europe, both contribute with one jurisdiction each in the bottom 10.

Policy Perception Index: A "report card" to governments on the attractiveness of their mining policies

While geologic and economic considerations are important factors in mineral exploration, a region's policy climate is also an important investment consideration. The Policy Perception Index (PPI), is a composite index that measures the overall policy attractiveness of the 84 jurisdictions in the survey. The index is composed of survey responses to policy factors that affect investment decisions. Policy factors examined include uncertainty concerning the administration of current regulations, environmental regulations, regulatory duplication, the legal system and taxation regime, uncertainty concerning protected areas and disputed land claims, infrastructure, socioeconomic and community development conditions, trade barriers, political stability, labor regulations, quality of the geological database, security, and labor and skills availability.

The top

The Republic of Ireland displaced Idaho (which dropped out of the top 10) this year with the highest PPI score of 100. Morocco took the second spot held in 2020 by Wyoming (which also dropped out of the top 10) with a score of 98.06. Along with the Republic of Ireland and Morocco, the top 10 ranked jurisdictions are Northern Ireland, Western Australia, Quebec, Nevada, Utah, Saskatchewan, Finland, and Alberta. Europe and Canada are the regions with the most jurisdictions (3 each) in the top 10 followed by the United States (2), Australia (1), and Africa (1).

The bottom

The 10 least attractive jurisdictions for investment based on the PPI rankings (starting with the worst) are Venezuela, Philippines, Argentina: Chubut, Nicaragua, Argentina: Mendoza, Zimbabwe, the Democratic Republic of Congo (DRC), Bolivia, Kyrgyzstan, and Mongolia. This year, Latin America and Argentina contribute five of the bottom 10 jurisdictions followed by Africa (2), Asia (2), and Oceania (1).

Survey Methodology

Survey background

The mining industry is an important contributor both to Canada's economy and to economies around the world. It provides not only materials essential for all sectors of the economy, but also employment and government revenues. Mining contributes to economic growth worldwide and Canadian mining companies operate in jurisdictions around the world. While mineral potential is obviously a very important consideration in encouraging or dissuading mining investment, the impact of government policies can also be significant in encouraging or discouraging investment in this important area of economic activity. Moreover, many regions around the world have attractive geology and competitive policies, allowing exploration investment to be shifted away from jurisdictions with unattractive policies.

Since 1997, the Fraser Institute has conducted an annual survey of people in mining and exploration companies to assess how mineral endowments and public policy factors such as taxation and regulation affect exploration investment. Our purpose is to create a "report card" that governments can use to improve their mining-related public policy in order to attract investment in their mining sector to better their economic productivity and employment. Others in the mining sector, investment sector, academia, and the media also may find the survey useful for evaluating potential investment decisions, or for assessing various risk factors in jurisdictions of interest.[1]

This year the survey includes 84 jurisdictions from all continents except Antarctica. For the first time since 2018, jurisdictions from Asia are assessed in the report. The 2021 questionnaire included a number of jurisdictions that had insufficient responses to enable them to be included in the report. The minimum threshold for inclusion this year was five responses. Jurisdictions with between 5 and 9 responses were included but have been noted accordingly. Any jurisdiction with fewer than 5 responses was dropped. This year's dropped jurisdictions include Afghanistan, Albania, Angola, Argentina: Neuquen, Armenia, Belarus, Bulgaria, Burundi, Cambodia, Central African Republic, Cyprus, Dominican Republic, Egypt, Eritrea, Estonia, Ethiopia, Fiji, France, French Guiana, Gabon,

[1] While we would prefer to directly measure the impacts of specific mining policy changes on investment in the sector, there are many barriers to doing so. The effects of policy on deterring exploration investment may not be immediately apparent due to the lag time between when policy changes are implemented and when economic activity is impeded and job losses occur.

Greece, Guatemala, Honduras, Hungary, India, Iraq, Israel, Ivory Coast, Japan, Jordan, Kenya, Laos, Lesotho, Madagascar, Malawi, Malaysia, Mozambique, Myanmar, New Caledonia, Nigeria, Oman, Pakistan, Poland, Portugal, Republic of the Congo (Brazzaville), Romania, Saudi Arabia, Serbia, Sierra Leone, Slovakia, Solomon Islands, South Dakota, South Korea, South Sudan, Sudan, Suriname, Swaziland, Tajikistan, Thailand, Tunisia, Uganda, Uruguay, Vietnam, and Zambia.

Jurisdictions are added to the survey based on interest from survey respondents, and their inclusion fluctuates based on a variety of factors such as industry turnover, industry downturns, and the movement of mining investment into jurisdictions seen as more attractive. This survey is published annually and the results are available and accessible to an increasingly global audience. In the past, detailed tables were included in an appendix showing the breakdown of scores on each question for each individual jurisdiction. Those tables are now available online at https://www.fraserinstitute.org/categories/mining.

The Fraser Institute's mining survey is an informal survey that attempts to assess the perceptions of mining company executives about various optimal and sub-optimal public policies that might affect the hospitality of a jurisdiction to mining investment. Given the survey's very broad circulation, its extensive press coverage, and the positive feedback we receive from miners, investors, and policymakers about its usefulness, we believe that the survey broadly captures the perceptions of those involved in both mining and the regulation of mining for the jurisdictions included.

Sample design

The survey is designed to identify the provinces, states, and countries that have the most attractive policies for encouraging investment in mining exploration. Jurisdictions that investors assess as relatively unattractive may therefore be prompted to consider reforms that would improve their ranking. Presumably mining companies use the information provided to corroborate their own assessments and to identify jurisdictions where the business conditions and regulatory environment are most attractive for investment. The survey results are also a useful source of information for the media, providing independent information as to how particular jurisdictions compare.

The 2021 survey was distributed to approximately 2,200 managers and executives around the world in companies involved in mining exploration, development, and other related activities. The names of potential respondents were compiled from commercially available lists, publicly available membership lists of trade associations, and other sources. Several mining associations also helped publicize the survey.

The survey was conducted from August 23rd to November 19th, 2021. We received a total of 290 responses from individuals, of whom 257 completed the full survey and 33 completed part of the survey. As figure 1 illustrates, almost two-thirds of respondents (62 percent) are either the company

Figure 1: The Position Survey Respondents Hold in Their Company, 2021

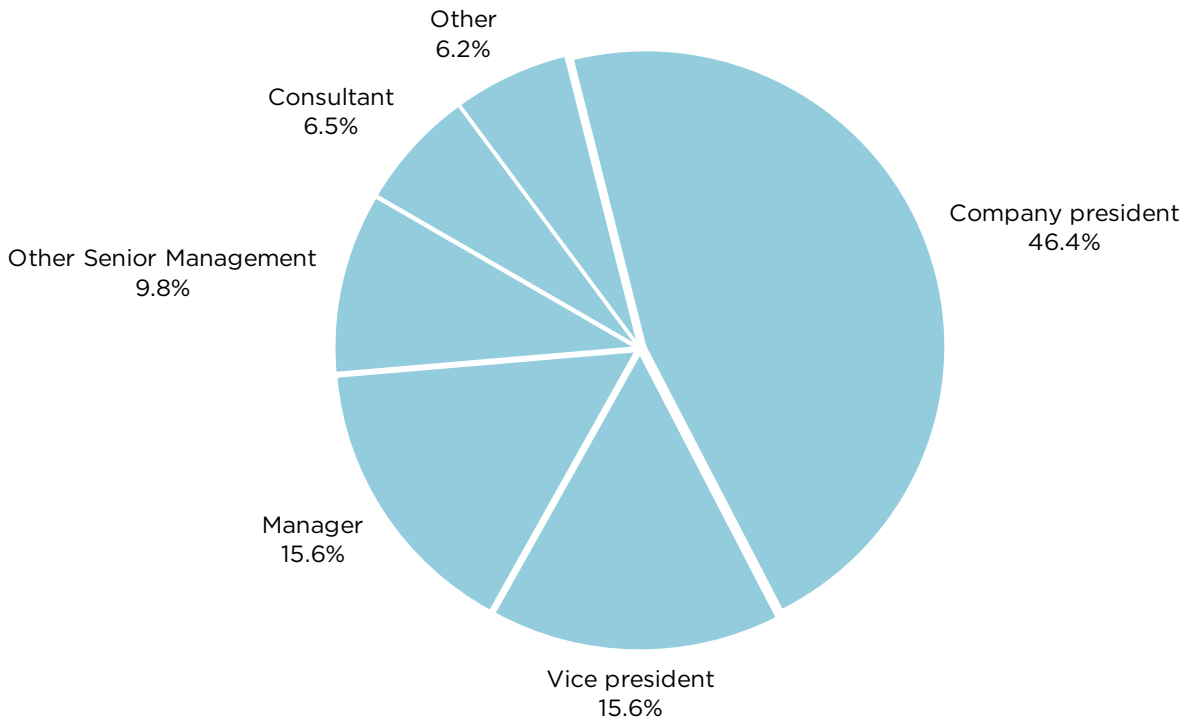
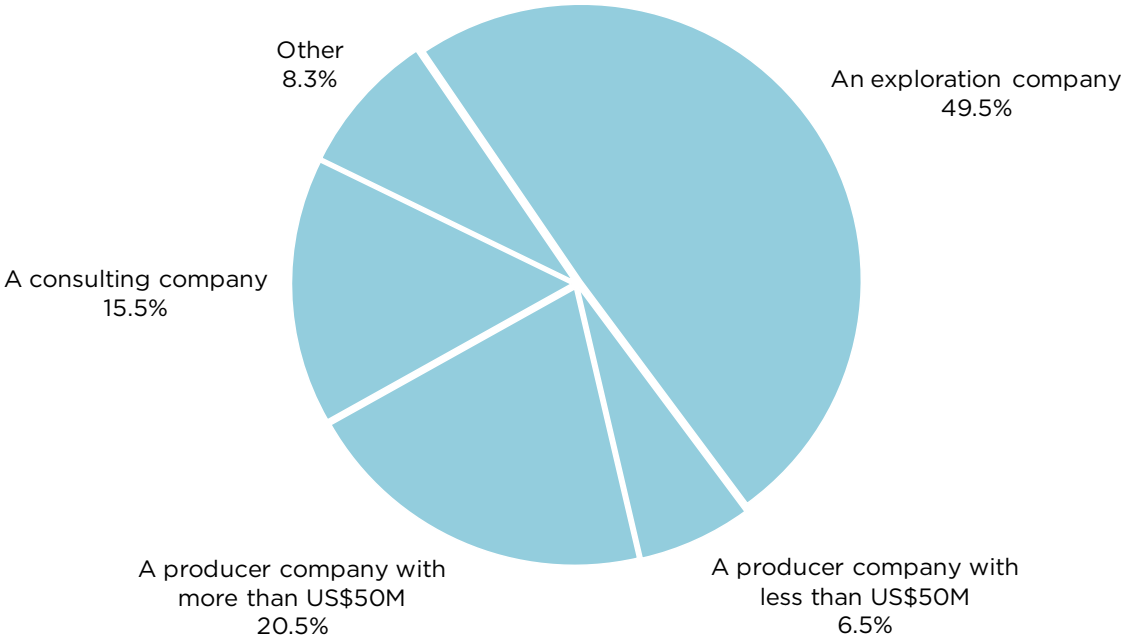


Figure 2: Company Focus as Indicated by Respondents, 2021



president or vice-president, and 25 percent are either managers or senior managers. The companies that participated in the survey reported exploration spending of US$2.51 billion in 2021 and US$1.79 billion in 2020.

Figure 2 shows that half of the 2021 survey respondents represent an exploration company. Twenty-seven percent of the respondents represent producer companies, and the final 24 percent is made up of consulting and other companies.

Survey questionnaire

The survey is designed to capture the opinions of managers and executives about the level of investment barriers in jurisdictions with which their companies are familiar. Respondents are asked to indicate how each of the 15 policy factors below influenced company decisions to invest in various jurisdictions.

1. Uncertainty concerning the administration, interpretation, or enforcement of existing regulations;
2. Uncertainty concerning environmental regulations (stability of regulations, consistency and timeliness of regulatory process, regulations not based on science);
3. Regulatory duplication and inconsistencies (includes federal/provincial, federal/state, inter-departmental overlap, etc.);
4. Legal system (legal processes that are fair, transparent, non-corrupt, timely, efficiently administered, etc.)
5. Taxation regime (includes personal, corporate, payroll, capital, and other taxes, and complexity of tax compliance);
6. Uncertainty concerning disputed land claims;
7. Uncertainty concerning what areas will be protected as wilderness, parks, or archeological sites, etc.;
8. Infrastructure (includes access to roads, power availability, etc.);
9. Socioeconomic agreements/community development conditions (includes local purchasing or processing requirements, or supplying social infrastructure such as schools or hospitals, etc.);
10. Trade barriers (tariff and non-tariff barriers, restrictions on profit repatriation, currency restrictions, etc.);
11. Political stability;
12. Labor regulations/employment agreements and labor militancy/work disruptions;

13 Quality of the geological database (includes quality and scale of maps, ease of access to information, etc.);

14 Level of security (includes physical security due to the threat of attack by terrorists, criminals, guerrilla groups, etc.);

15 Availability of labor/skills.

Respondents were asked to score only jurisdictions with which they were familiar and only on those policy factors with which they were familiar. The 15 policy questions were unchanged from the 2013 survey. However, two questions that had been included—on the level of corruption (or honesty) and on growing (or lessening) uncertainty in mining policy and implementation—were dropped in 2013 in response to complaints from previous years' respondents that the survey had become onerously lengthy. Also, those questions were seen to be redundant, or overlap heavily with other questions. For each of the 15 factors, respondents were asked to select one of the following five responses that best described each jurisdiction with which they were familiar:

1 Encourages exploration investment

2 Not a deterrent to exploration investment

3 Is a mild deterrent to exploration investment

4 Is a strong deterrent to exploration investment

5 Would not pursue exploration investment in this region due to this factor

The survey also included questions about the respondents and the type of company they represented, regulatory "horror stories," examples of "exemplary policy," mineral potential assuming current regulation and land use restrictions, mineral potential assuming a "best practices" regulatory environment, the weighting of mineral versus policy factors in investment decisions, and investment spending.

Summary Indexes

Investment Attractiveness Index

The Investment Attractiveness Index (table 1 and figure 3) is a composite index that combines both the Policy Perception Index (PPI) and results from the Best Practices Mineral Potential Index.[2] While it is useful to measure the attractiveness of a jurisdiction based on policy factors such as onerous regulations, taxation levels, the quality of infrastructure, and the other policy related questions that respondents answered, the Policy Perception Index alone does not recognize the fact that investment decisions are often sizably based on the pure mineral potential of a jurisdiction. Indeed, as will be discussed below, respondents consistently indicate that while 40 percent of their investment decision is determined by policy factors, 60 percent is based on their assessment of a jurisdiction's mineral potential. To get a true sense of which global jurisdictions are attracting investment, both mineral potential and policy perception must be considered.

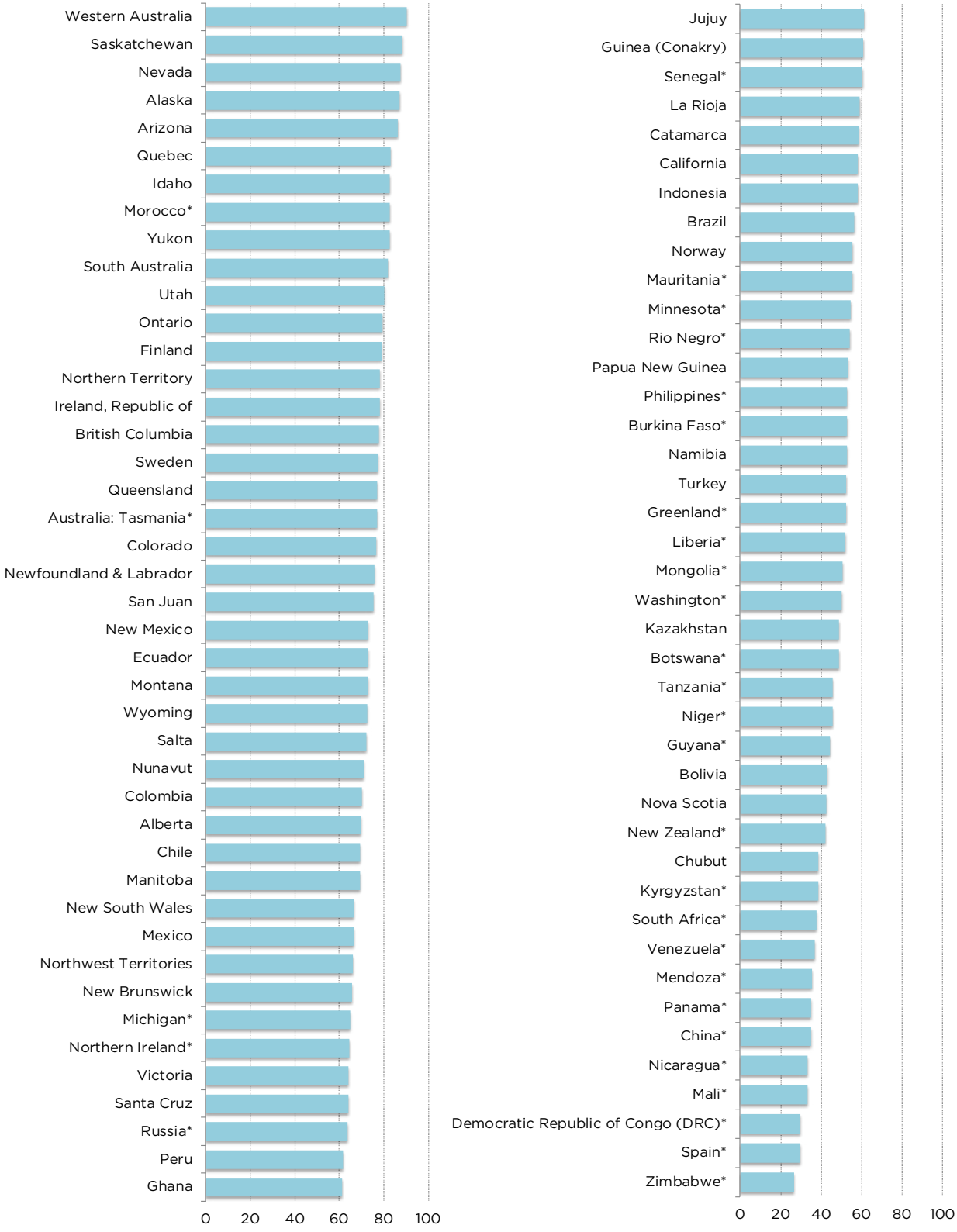
This year, as in other years, the index was weighted 40 percent by policy and 60 percent by mineral potential. These ratios are determined from a survey question that asks respondents to rate the relative importance of each factor. In most years, the split is nearly exactly 60 percent mineral and 40 percent policy. This year, the answer was 57.25 percent mineral potential and 42.75 percent policy. We maintain a 60/40 ratio in calculating this index to allow comparability with other years.

The PPI (table 2 and figure 4) provides the data on policy perception (see below for explanation on how the index is calculated), while the rankings from the Best Practices Mineral Index (table 3 and figure 5), based on the percentage of responses for "Encourages Investment" and a half-weighting of the responses for "Not a Deterrent to Investment," provides the data on mineral potential. Table 1 details the relative trends observed over the last five years for the performance of each of the jurisdictions on the Investment Attractiveness Index.

One limitation of this index is that it may not provide an accurate measure of the investment attractiveness of a jurisdiction at extremes, or where the 60/40 weighting is unlikely to be stable. For example, extremely bad policy that would virtually confiscate all potential profits, or an environment that would expose workers and managers to high personal risk, would discourage mining activity

[2] A best practice environment is one which contains a world class regulatory environment, highly competitive taxation, no political risk or uncertainty, and a fully stable mining regime.

Figure 3: Investment Attractiveness Index



* Between 5 and 9 responses

Table 1: Investment Attractiveness Index

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Canada	Alberta	69.79	75.47	71.11	62.12	61.77	30/84	22/77	30/76	51/83	49/91
	British Columbia	77.70	77.94	77.47	78.09	74.01	16/84	17/77	19/76	18/83	20/91
	Manitoba	69.21	69.61	68.01	81.78	74.50	32/84	37/77	34/76	12/83	18/91
	New Brunswick	65.61	71.42	53.65	73.42	68.87	36/84	32/77	60/76	30/83	30/91
	Newfoundland & Labrador	75.83	85.17	71.73	82.14	80.58	21/84	8/77	28/76	11/83	11/91
	Northwest Territories	66.22	65.10	67.93	82.46	73.20	35/84	46/77	35/76	10/83	21/91
	Nova Scotia	42.40	51.56	61.01	59.38	60.41	71/84	66/77	52/76	57/83	56/91
	Nunavut	70.82	68.93	73.24	80.59	70.58	28/84	39/77	26/76	15/83	26/91
	Ontario	79.59	76.43	79.29	78.07	82.15	12/84	20/77	16/76	20/83	7/91
	Quebec	83.12	85.97	77.49	88.38	83.08	6/84	6/77	18/76	4/83	6/91
	Saskatchewan	88.32	89.38	81.75	90.00	87.18	2/84	3/77	11/76	3/83	2/91
	Yukon	82.43	77.30	75.56	83.35	79.67	9/84	18/77	23/76	9/83	13/91
United States	Alaska	87.18	88.06	84.17	86.08	80.74	4/84	5/77	4/76	5/83	10/91
	Arizona	86.38	90.45	82.43	83.94	81.11	5/84	2/77	9/76	8/83	9/91
	California	57.84	55.47	46.44	56.59	56.84	49/84	62/77	63/76	61/83	62/91
	Colorado	76.38	79.82	68.46	69.28	71.38	20/84	13/77	32/76	35/83	23/91
	Idaho	82.72	85.00	82.78	79.89	70.12	7/84	9/77	8/76	16/83	28/91
	Michigan*	64.73	50.91	**	70.70	75.67	37/84	68/77	**	33/83	17/91
	Minnesota*	54.33	59.29	61.52	70.41	68.89	54/84	55/77	50/76	34/83	29/91
	Montana	72.77	70.51	61.87	72.50	65.90	25/84	33/77	49/76	31/83	38/91
	Nevada	87.64	91.05	87.54	92.99	85.45	3/84	1/77	3/76	1/83	3/91
	New Mexico	72.89	79.24	54.89	73.98	66.38	23/84	15/77	59/76	28/83	37/91
	Utah	80.22	73.41	80.51	84.29	78.19	11/84	25/77	14/76	7/83	15/91
	Washington*	50.26	65.37	51.55	52.93	49.88	64/84	45/77	61/76	71/83	76/91
	Wyoming	72.46	72.82	71.41	74.45	58.35	26/84	26/77	29/76	26/83	60/91
Australia	New South Wales	66.48	72.64	62.78	65.56	62.31	33/84	27/77	47/76	42/83	46/91
	Northern Territory	78.35	77.27	81.43	75.93	70.47	14/84	19/77	13/76	23/83	27/91
	Queensland	77.13	78.00	79.33	81.67	80.53	18/84	16/77	15/76	13/83	12/91
	South Australia	81.70	85.64	83.31	75.46	79.30	10/84	7/77	6/76	24/83	14/91
	Tasmania*	76.81	55.46	75.70	60.31	61.69	19/84	63/77	22/76	55/83	50/91
	Victoria	64.13	58.82	64.27	60.74	51.82	39/84	56/77	43/76	54/83	71/91
	Western Australia	90.21	88.82	92.45	91.47	83.56	1/84	4/77	1/76	2/83	5/91
Oceania	Indonesia	57.84	44.32	73.09	63.10	66.84	50/84	74/77	27/76	47/83	35/91
	New Zealand*	42.28	56.12	64.59	66.47	60.51	72/84	61/77	42/76	40/83	55/91
	Papua New Guinea	53.04	54.67	58.84	66.32	63.91	56/84	65/77	54/76	41/83	40/91
	Philippines*	52.87	**	**	55.55	50.32	57/84	**	**	65/83	75/91

Table 1 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Africa	Botswana*	48.61	81.48	63.39	71.66	63.14	66/84	11/77	45/76	32/83	43/91
	Burkina Faso*	52.77	59.68	61.19	**	52.64	58/84	53/77	51/76	**	68/91
	Democratic Republic of Congo (DRC)*	29.67	58.12	39.20	54.92	61.51	82/84	57/77	69/76	67/83	51/91
	Ghana	61.29	71.85	**	54.91	72.13	43/84	31/77	**	68/83	22/91
	Guinea (Conakry)	60.92	65.92	76.64	**	**	45/84	43/77	20/76	**	**
	Liberia*	51.87	**	**	**	**	62/84	**	**	**	**
	Mali*	33.05	76.27	39.53	62.18	70.74	81/84	21/77	68/76	50/83	25/91
	Mauritania*	55.28	63.39	**	**	**	53/84	48/77	**	**	**
	Morocco*	82.56	**	**	**	56.35	8/84	**	**	**	63/91
	Namibia	52.59	59.72	58.22	56.66	60.67	59/84	52/77	55/76	60/83	54/91
	Niger*	45.46	**	**	**	**	68/84	**	**	**	**
	Senegal*	60.07	**	**	**	**	46/84	**	**	**	**
	South Africa	37.88	56.33	64.79	65.30	62.06	75/84	60/77	40/76	43/83	48/91
	Tanzania*	45.76	42.08	32.82	55.04	46.79	67/84	75/77	76/76	66/83	79/91
	Zimbabwe*	26.55	49.52	44.81	56.57	54.32	84/84	70/77	64/76	62/83	66/91
Argentina	Catamarca	58.39	65.49	63.93	68.39	53.91	48/84	44/77	44/76	37/83	67/91
	Chubut	38.78	40.58	33.13	54.83	30.54	73/84	76/77	75/76	69/83	88/91
	Jujuy	61.17	63.55	51.21	52.61	58.57	44/84	47/77	62/76	72/83	59/91
	La Rioja	58.99	44.44	34.48	48.70	46.06	47/84	73/77	74/76	75/83	80/91
	Mendoza*	35.54	48.98	44.46	50.15	29.29	77/84	71/77	66/76	73/83	89/91
	Rio Negro*	53.92	54.79	44.76	**	**	55/84	64/77	65/76	**	**
	Salta	72.05	74.69	67.19	54.09	62.51	27/84	23/77	36/76	70/83	45/91
	San Juan	75.32	63.35	76.20	55.90	63.21	22/84	49/77	21/76	64/83	42/91
	Santa Cruz	63.91	67.39	60.49	62.46	60.98	40/84	40/77	53/76	49/83	52/91
Latin America and the Caribbean Basin	Bolivia	42.92	45.16	62.36	49.53	33.68	70/84	72/77	48/76	74/83	86/91
	Brazil	56.20	69.29	63.36	58.63	55.12	51/84	38/77	46/76	58/83	65/91
	Chile	69.33	72.11	77.72	84.90	81.51	31/84	30/77	17/76	6/83	8/91
	Colombia	70.03	72.29	57.99	62.58	56.10	29/84	28/77	56/76	48/83	64/91
	Ecuador	72.79	57.95	56.80	59.79	52.09	24/84	58/77	57/76	56/83	70/91
	Guyana*	44.24	51.54	65.17	67.27	50.42	69/84	67/77	39/76	39/83	74/91
	Mexico	66.46	66.87	65.43	73.91	63.03	34/84	42/77	38/76	29/83	44/91
	Nicaragua*	33.44	**	43.03	37.19	43.10	80/84	**	67/76	81/83	82/91
	Panama*	35.11	**	**	44.21	49.66	78/84	**	**	79/83	77/91
	Peru	61.64	70.41	75.14	81.55	74.26	42/84	34/77	24/76	14/83	19/91
	Venezuela*	36.67	17.14	38.18	27.69	36.43	76/84	77/77	70/76	83/83	85/91

Table 1 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Asia	China*	34.92	**	**	44.75	41.65	79/84	**	**	78/83	83/91
	Kazakhstan	48.83	**	**	**	71.03	65/84	**	**	**	24/91
	Kyrgyzstan*	38.40	**	**	**	**	74/84	**	**	**	**
	Mongolia*	50.66	**	**	**	60.69	63/84	**	**	**	53/91
Europe	Finland	79.18	82.75	92.00	79.04	89.04	13/84	10/77	2/76	17/83	1/91
	Greenland*	52.13	66.91	64.68	55.93	66.97	61/84	41/77	41/76	63/83	34/91
	Ireland, Republic of	78.18	80.40	83.22	78.07	84.40	15/84	12/77	7/76	19/83	4/91
	Northern Ireland*	64.46	70.23	**	75.28	62.29	38/84	35/77	**	25/83	47/91
	Norway	55.49	59.65	70.26	61.65	63.24	52/84	54/77	31/76	53/83	41/91
	Russia*	63.57	74.53	**	74.23	67.51	41/84	24/77	**	27/83	33/91
	Spain*	29.55	49.76	**	64.99	66.69	83/84	69/77	**	44/83	36/91
	Sweden	77.52	69.66	82.00	77.89	76.88	17/84	36/77	10/76	21/83	16/91
	Turkey	52.15	79.27	81.60	56.72	52.60	60/84	14/77	12/76	59/83	69/91

Notes:

* Between 5 and 9 responses on one or more questions

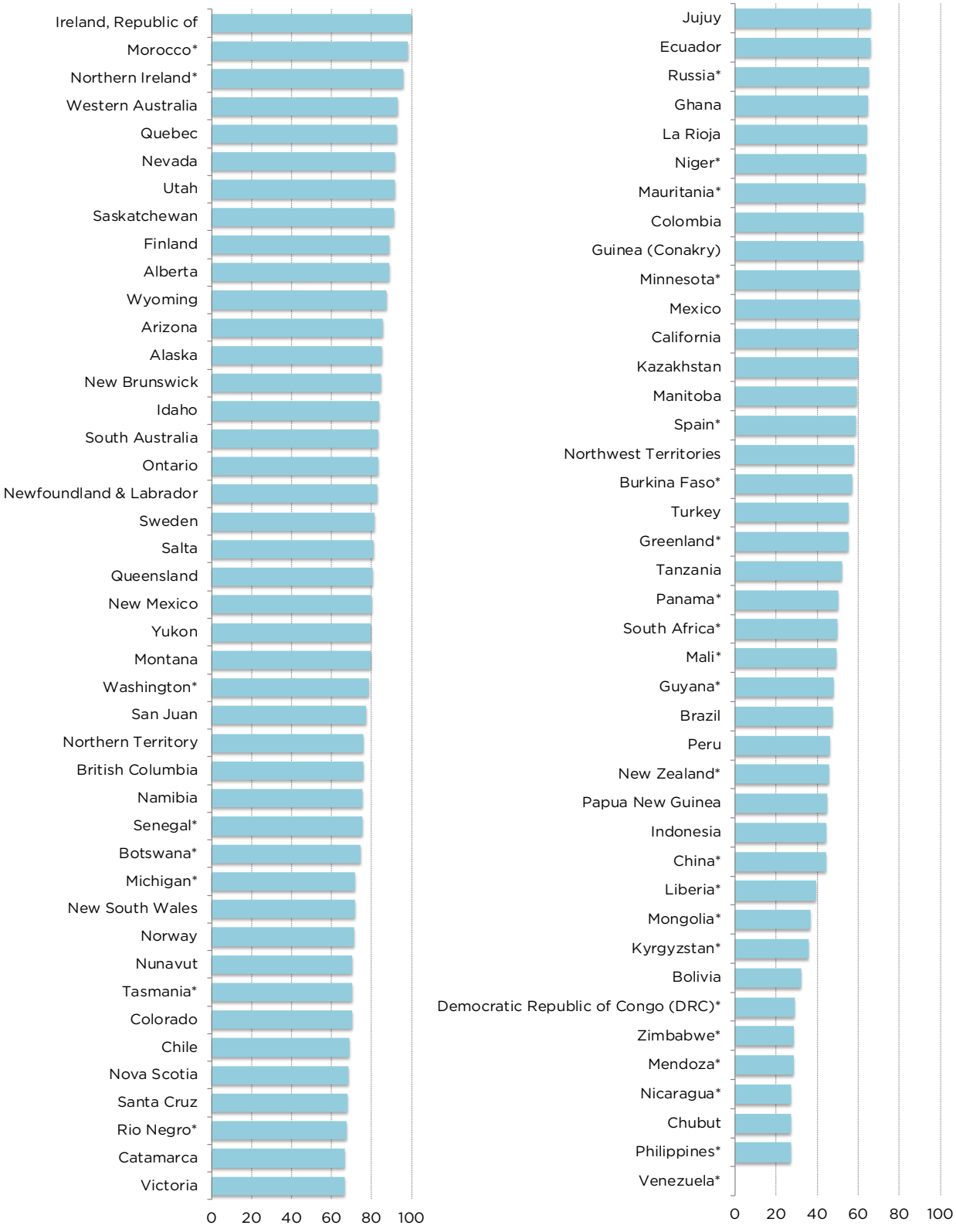
** Not Available

regardless of mineral potential. In this case, mineral potential—far from having a 60 percent weight—might carry very little weight. There is also an issue when poor policies lead to a reduction in the knowledge of mineral potential, thereby affecting the responses of potential investors.

Policy Perception Index (PPI): An assessment of the attractiveness of mining policies

While geologic and economic evaluations are always requirements for exploration, in today's globally competitive economy where mining companies may be examining properties located on different continents, a region's policy climate has taken on increased importance in attracting and winning investment. The Policy Perception Index, or PPI (see table 2 and figure 4), provides a comprehensive assessment of the attractiveness of mining policies in a jurisdiction, and can serve as a report card to governments on how attractive their policies are from the point of view of an exploration manager. In previous survey years, we have referred to this index as the Policy Potential Index. However, we feel that Policy Perception Index more accurately reflects the nature of this index.

Figure 4: Policy Perception Index



* Between 5 and 9 responses

Table 2: Policy Perception Index

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Canada	Alberta	88.77	90.24	92.05	94.37	84.42	10/84	18/77	6/76	14/83	16/91
	British Columbia	75.76	75.36	71.80	75.98	73.80	28/84	41/77	36/76	44/83	36/91
	Manitoba	59.13	65.40	61.42	83.29	78.76	57/84	58/77	53/76	33/83	27/91
	New Brunswick	84.62	88.55	87.24	96.04	86.47	14/84	19/77	13/76	9/83	13/91
	Newfoundland & Labrador	83.00	95.93	90.69	92.85	87.46	18/84	8/77	8/76	18/83	10/91
	Northwest Territories	57.74	67.55	63.24	77.16	69.37	59/84	54/77	50/76	42/83	42/91
	Nova Scotia	68.50	82.48	85.87	94.89	82.28	39/84	24/77	18/76	11/83	24/91
	Nunavut	70.46	70.33	67.19	74.55	67.58	35/84	51/77	44/76	45/83	44/91
	Ontario	83.06	80.70	82.46	84.87	82.96	17/84	31/77	24/76	30/83	20/91
	Quebec	92.69	90.50	83.57	95.11	87.47	5/84	17/77	21/76	10/83	9/91
	Saskatchewan	91.25	95.24	90.25	100.00	91.81	8/84	9/77	9/76	1/83	3/91
	Yukon	79.77	76.80	76.40	86.87	82.69	23/84	39/77	32/76	24/83	22/91
United States	Alaska	85.25	92.65	86.52	85.48	76.85	13/84	13/77	17/76	26/83	29/91
	Arizona	85.41	96.33	89.83	91.67	85.28	12/84	7/77	10/76	19/83	14/91
	California	59.61	63.67	62.52	69.60	59.61	55/84	62/77	52/76	49/83	61/91
	Colorado	70.11	79.56	81.16	85.16	74.87	37/84	33/77	25/76	29/83	35/91
	Idaho	83.58	100.00	91.57	94.72	84.52	15/84	1/77	7/76	13/83	15/91
	Michigan*	71.82	82.26	**	90.20	89.18	32/84	26/77	**	21/83	7/91
	Minnesota*	60.82	80.71	69.43	90.31	76.77	53/84	30/77	40/76	20/83	30/91
	Montana	79.66	81.27	72.87	81.24	66.06	24/84	28/77	34/76	35/83	47/91
	Nevada	91.77	98.64	95.00	99.31	90.50	6/84	5/77	3/76	2/83	5/91
	New Mexico	79.96	94.97	82.68	93.87	82.61	22/84	10/77	23/76	15/83	23/91
	Utah	91.46	97.00	94.14	96.25	86.73	7/84	6/77	4/76	8/83	12/91
	Washington*	78.79	79.05	70.54	77.77	69.71	25/84	35/77	37/76	40/83	41/91
	Wyoming	87.41	99.54	86.85	93.83	87.55	11/84	2/77	16/76	16/83	8/91
Australia	New South Wales	71.75	72.13	66.96	71.60	63.21	33/84	49/77	46/76	47/83	53/91
	Northern Territory	75.87	78.48	77.26	77.32	75.31	27/84	36/77	30/76	41/83	33/91
	Queensland	80.33	81.12	76.91	84.64	75.78	21/84	29/77	31/76	31/83	31/91
	South Australia	83.09	90.88	85.55	89.65	80.39	16/84	16/77	19/76	22/83	26/91
	Tasmania*	70.14	82.40	73.33	84.11	75.65	36/84	25/77	33/76	32/83	32/91
	Victoria	66.57	77.40	67.81	76.85	63.93	43/84	38/77	43/76	43/83	52/91
	Western Australia	92.83	94.77	93.99	96.68	83.51	4/84	11/77	5/76	5/83	17/91
Oceania	Indonesia	44.60	54.54	47.74	54.64	39.92	72/84	69/77	64/76	70/83	84/91
	New Zealand*	45.71	80.29	72.83	85.40	64.43	70/84	32/77	35/76	27/83	50/91
	Papua New Guinea	45.09	53.35	49.60	60.81	47.27	71/84	71/77	63/76	61/83	77/91
	Philippines*	27.17	**	**	42.46	38.29	83/84	**	**	79/83	85/91

Table 2 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Africa	Botswana*	74.66	91.20	83.48	94.77	82.84	31/84	15/77	22/76	12/83	21/91
	Burkina Faso*	56.92	61.70	55.48	**	62.84	60/84	65/77	60/76	**	55/91
	Democratic Republic of Congo (DRC)*	29.18	53.64	38.00	34.18	35.03	78/84	70/77	70/76	82/83	87/91
	Ghana	64.59	74.62	**	62.27	64.42	47/84	46/77	**	60/83	51/91
	Guinea (Conakry)	62.29	74.81	41.60	**	**	52/84	44/77	68/76	**	**
	Liberia*	39.67	**	**	**	**	74/84	**	**	**	**
	Mali*	49.30	78.18	45.27	60.00	66.86	66/84	37/77	65/76	63/83	46/91
	Mauritania*	63.20	62.03	**	**	**	50/84	64/77	**	**	**
	Morocco*	98.06	**	**	**	65.88	2/84	**	**	**	48/91
	Namibia	75.24	74.30	87.22	80.71	71.11	29/84	47/77	14/76	36/83	39/91
	Niger*	63.65	**	**	**	**	49/84	**	**	**	**
	Senegal*	75.17	**	**	**	**	30/84	**	**	**	**
	South Africa	49.71	60.81	59.71	64.57	42.66	65/84	66/77	56/76	56/83	81/91
	Tanzania*	51.91	48.94	28.47	56.83	45.11	63/84	72/77	74/76	66/83	78/91
	Zimbabwe*	28.88	39.42	26.31	47.68	29.54	79/84	75/77	75/76	76/83	89/91
Argentina	Catamarca	66.80	74.67	68.17	79.31	70.50	42/84	45/77	41/76	38/83	40/91
	Chubut	27.30	38.94	30.89	37.07	26.34	82/84	76/77	73/76	80/83	90/91
	Jujuy	66.09	70.63	57.44	56.53	54.75	44/84	50/77	59/76	67/83	69/91
	La Rioja	64.13	54.84	42.44	46.76	52.66	48/84	68/77	67/76	77/83	73/91
	Mendoza*	28.84	47.45	36.14	50.37	43.22	80/84	73/77	72/76	73/83	80/91
	Rio Negro*	67.29	83.40	70.23	**	**	41/84	22/77	38/76	**	**
	Salta	81.13	87.87	77.97	67.72	71.89	20/84	21/77	29/76	51/83	38/91
	San Juan	77.30	75.04	80.21	64.76	66.96	26/84	43/77	27/76	55/83	45/91
	Santa Cruz	68.11	76.17	63.73	65.09	61.38	40/84	40/77	49/76	54/83	58/91
Latin America and the Caribbean Basin	Bolivia	32.31	44.73	37.15	48.81	40.45	77/84	74/77	71/76	75/83	83/91
	Brazil	47.64	66.65	69.75	64.43	55.66	68/84	56/77	39/76	57/83	66/91
	Chile	68.86	83.06	86.86	88.61	80.55	38/84	23/77	15/76	23/83	25/91
	Colombia	62.57	64.83	58.73	58.96	44.80	51/84	59/77	57/76	65/83	79/91
	Ecuador	66.06	54.87	49.69	51.64	42.18	45/84	67/77	62/76	72/83	82/91
	Guyana*	48.10	68.84	59.80	68.18	61.76	67/84	53/77	55/76	50/83	56/91
	Mexico	60.67	64.41	62.72	71.32	65.13	54/84	61/77	51/76	48/83	49/91
	Nicaragua*	27.36	**	45.06	55.47	55.24	81/84	**	66/76	68/83	68/91
	Panama*	50.28	**	**	60.53	49.14	64/84	**	**	62/83	76/91
	Peru	46.28	75.16	67.02	79.66	68.99	69/84	42/77	45/76	37/83	43/91
	Venezuela*	0.00	0.00	0.00	0.00	0.00	84/84	77/77	76/76	83/83	91/91

Table 2 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Asia	China*	44.45	**	**	49.39	37.46	73/84	**	**	74/83	86/91
	Kazakhstan	59.57	**	**	**	60.91	56/84	**	**	**	59/91
	Kyrgyzstan*	36.00	**	**	**	**	76/84	**	**	**	**
	Mongolia*	36.65	**	**	**	54.23	75/84	**	**	**	70/91
Europe	Finland	88.86	99.07	100.00	99.16	98.84	9/84	3/77	1/76	3/83	2/91
	Greenland*	55.33	67.27	64.20	55.46	63.07	62/84	55/77	48/76	69/83	54/91
	Ireland, Republic of	100.00	98.72	95.54	97.68	100.00	1/84	4/77	2/76	4/83	1/91
	Northern Ireland*	95.53	92.24	**	96.55	89.56	3/84	14/77	**	6/83	6/91
	Norway	71.22	81.61	84.00	85.38	77.75	34/84	27/77	20/76	28/83	28/91
	Russia*	65.18	73.83	**	67.71	60.44	46/84	48/77	**	52/83	60/91
	Spain*	58.88	79.40	**	79.13	83.39	58/84	34/77	**	39/83	18/91
	Sweden	81.31	88.42	89.62	96.28	91.11	19/84	20/77	12/76	7/83	4/91
	Turkey	55.38	69.60	78.99	59.98	52.74	61/84	52/77	28/76	64/83	72/91

Notes:

* Between 5 and 9 responses on one or more questions

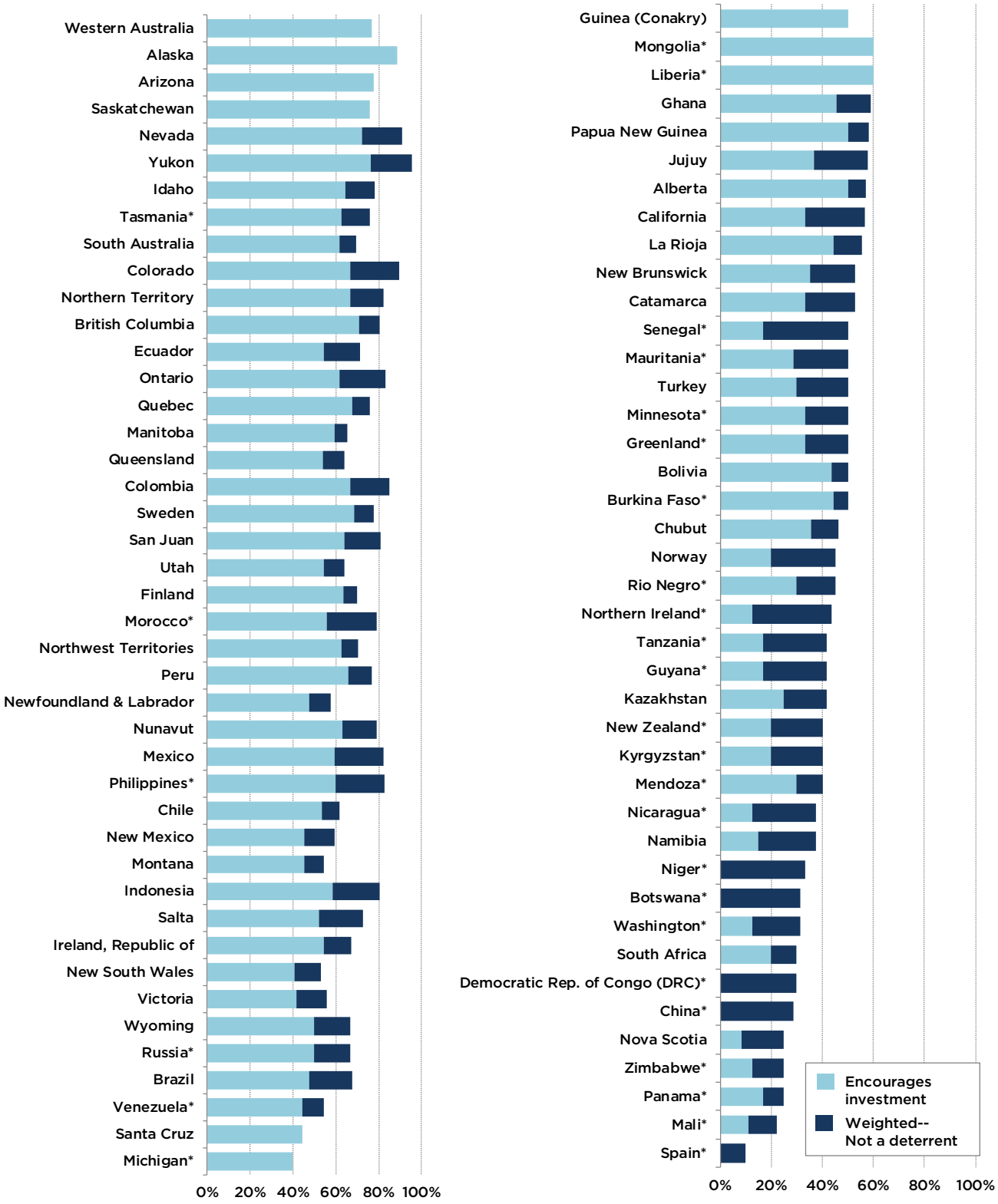
** Not Available

The Policy Perception Index is a composite index that captures the opinions of managers and executives on the effects of policies in jurisdictions with which they are familiar. All survey policy questions (i.e., uncertainty concerning the administration, interpretation, and enforcement of existing regulations; environmental regulations; regulatory duplication and inconsistencies; taxation; uncertainty concerning disputed land claims and protected areas; infrastructure; socioeconomic agreements; political stability; labor issues; geological database; and security) are included in its calculation.

This year we continued the use of the methodology first used to calculate the PPI in 2015. The methodology differs from that of previous years in that it considers answers in all five response categories,[3] as well as how far a jurisdiction's score is from the average. To calculate the PPI, a score for each jurisdiction is estimated for all 15 policy factors by calculating each jurisdiction's average response. This score is then standardized using a common technique, where the average response is subtracted from each jurisdiction's score on each of the policy factors and then divided by the standard deviation. A jurisdiction's scores on each of the 15 policy variables are then added up to generate a final, standardized PPI score. That score is then normalized using the formula $\frac{Vmax - Vi}{Vmax - Vmin} \; x \; 100$

[3] The methodology used previously only considered responses in the "encourages investment" category.

Figure 5: Best Practices Mineral Potential Index



* Between 5 and 9 responses

Table 3: Best Practices Mineral Potential Index

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Canada	Alberta	57.14	65.63	57.14	40.63	46.67	50/84	33/77	54/76	74/83	69/91
	British Columbia	78.99	79.66	81.25	79.49	74.16	12/84	10/77	10/76	13/83	22/91
	Manitoba	75.93	72.41	72.41	80.77	71.67	16/84	22/77	26/76	11/83	28/91
	New Brunswick	52.94	60.00	31.25	58.33	57.14	53/84	42/77	72/76	49/83	52/91
	Newfoundland & Labrador	71.05	78.00	59.09	75.00	76.00	27/84	11/77	50/76	18/83	18/91
	Northwest Territories	71.88	63.46	71.05	86.00	75.76	25/84	36/77	29/76	4/83	19/91
	Nova Scotia	25.00	30.95	44.44	35.71	45.83	82/84	74/77	61/76	79/83	70/91
	Nunavut	71.05	68.00	77.27	84.62	72.58	26/84	29/77	16/76	5/83	25/91
	Ontario	77.27	73.58	77.17	73.53	81.62	13/84	20/77	18/76	20/83	9/91
	Quebec	76.74	82.95	73.44	83.90	80.16	15/84	7/77	25/76	6/83	10/91
	Saskatchewan	86.36	85.48	76.09	83.33	84.09	4/84	4/77	21/76	7/83	2/91
	Yukon	84.21	77.63	75.00	81.00	77.66	6/84	12/77	22/76	10/83	16/91
United States	Alaska	88.46	85.00	82.61	86.49	83.33	2/84	5/77	7/76	3/83	5/91
	Arizona	87.04	86.54	77.50	78.79	78.33	3/84	1/77	15/76	14/83	13/91
	California	56.67	50.00	35.71	47.92	55.00	51/84	58/77	69/76	67/83	57/91
	Colorado	80.56	80.00	60.00	58.70	69.05	10/84	9/77	45/76	48/83	31/91
	Idaho	82.14	75.00	76.92	70.00	60.53	7/84	17/77	19/76	21/83	46/91
	Michigan*	60.00	30.00	**	57.69	66.67	43/84	75/77	**	51/83	34/91
	Minnesota*	50.00	45.00	56.25	57.14	63.64	58/84	64/77	55/76	52/83	37/91
	Montana	68.18	63.33	54.55	66.67	65.79	31/84	37/77	56/76	28/83	35/91
	Nevada	84.88	86.00	82.56	88.78	82.08	5/84	2/77	8/76	1/83	8/91
	New Mexico	68.18	68.75	36.36	60.71	55.56	32/84	26/77	67/76	45/83	55/91
	Utah	72.73	57.69	71.43	76.32	72.50	22/84	49/77	28/76	16/83	26/91
	Washington*	31.25	56.25	38.89	36.36	36.67	75/84	51/77	65/76	78/83	82/91
	Wyoming	62.50	55.00	61.11	61.54	38.89	38/84	56/77	43/76	42/83	81/91
Australia	New South Wales	62.96	72.97	60.00	61.54	61.70	36/84	21/77	47/76	41/83	40/91
	Northern Territory	80.00	76.47	84.21	75.00	67.24	11/84	14/77	5/76	19/83	33/91
	Queensland	75.00	75.93	80.95	79.69	83.70	19/84	15/77	11/76	12/83	3/91
	South Australia	80.77	82.14	81.82	66.00	78.57	9/84	8/77	9/76	29/83	12/91
	Tasmania*	81.25	37.50	77.27	44.44	52.38	8/84	72/77	17/76	71/83	63/91
	Victoria	62.50	46.43	61.90	50.00	43.75	39/84	62/77	40/76	66/83	77/91
	Western Australia	88.46	84.85	91.43	88.00	83.59	1/84	6/77	2/76	2/83	4/91
Oceania	Indonesia	66.67	37.50	90.00	68.75	84.78	33/84	69/77	3/76	25/83	1/91
	New Zealand*	40.00	40.00	59.09	53.85	57.89	71/84	68/77	49/76	58/83	51/91
	Papua New Guinea	58.33	55.56	65.00	70.00	75.00	48/84	54/77	38/76	23/83	20/91
	Philippines*	70.00	**	**	64.29	58.33	29/84	**	**	37/83	49/91

Table 3 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Africa	Botswana*	31.25	75.00	50.00	56.25	50.00	76/84	16/77	59/76	53/83	64/91
	Burkina Faso*	50.00	58.33	65.00	**	45.83	55/84	46/77	37/76	**	71/91
	Democratic Republic of Congo (DRC)*	30.00	61.11	40.00	68.75	79.17	78/84	39/77	63/76	24/83	11/91
	Ghana	59.09	70.00	**	50.00	77.27	47/84	25/77	**	61/83	17/91
	Guinea (Conakry)	60.00	60.00	100.00	**	**	46/84	40/77	1/76	**	**
	Liberia*	60.00	**	**	**	**	44/84	**	**	**	**
	Mali*	22.22	75.00	35.71	63.64	73.33	83/84	18/77	70/76	38/83	24/91
	Mauritania*	50.00	64.29	**	**	**	60/84	35/77	**	**	**
	Morocco*	72.22	**	**	**	50.00	23/84	**	**	**	65/91
	Namibia	37.50	50.00	38.89	40.63	53.70	72/84	61/77	64/76	75/83	60/91
	Niger*	33.33	**	**	**	**	74/84	**	**	**	**
	Senegal*	50.00	**	**	**	**	61/84	**	**	**	**
	South Africa	30.00	53.33	68.18	65.79	75.00	77/84	57/77	34/76	30/83	21/91
	Tanzania*	41.67	37.50	35.71	53.85	47.92	68/84	71/77	68/76	59/83	68/91
	Zimbabwe*	25.00	56.25	57.14	62.50	70.83	81/84	52/77	53/76	40/83	29/91
Argentina	Catamarca	52.78	59.38	61.11	61.11	42.86	54/84	44/77	44/76	43/83	78/91
	Chubut	46.43	41.67	34.62	66.67	33.33	62/84	66/77	71/76	26/83	85/91
	Jujuy	57.89	58.82	47.06	50.00	61.11	49/84	45/77	60/76	62/83	42/91
	La Rioja	55.56	37.50	29.17	50.00	41.67	52/84	70/77	73/76	63/83	80/91
	Mendoza*	40.00	50.00	50.00	50.00	20.00	69/84	60/77	58/76	64/83	89/91
	Rio Negro*	45.00	35.71	27.78	**	**	64/84	73/77	74/76	**	**
	Salta	66.00	65.91	60.00	45.00	56.25	34/84	32/77	46/76	70/83	54/91
	San Juan	74.00	55.56	73.53	50.00	60.71	20/84	55/77	24/76	65/83	43/91
	Santa Cruz	61.11	61.54	58.33	60.71	60.71	41/84	38/77	51/76	46/83	44/91
Latin America and the Caribbean Basin	Bolivia	50.00	45.45	79.17	50.00	29.17	56/84	63/77	14/76	60/83	87/91
	Brazil	61.90	71.05	59.09	54.76	54.76	40/84	24/77	48/76	56/83	59/91
	Chile	69.64	64.81	71.62	82.43	82.14	30/84	34/77	27/76	9/83	7/91
	Colombia	75.00	77.27	57.50	65.00	63.64	18/84	13/77	52/76	34/83	38/91
	Ecuador	77.27	60.00	61.54	65.22	58.70	14/84	43/77	41/76	33/83	47/91
	Guyana*	41.67	40.00	68.75	66.67	42.86	67/84	67/77	32/76	27/83	79/91
	Mexico	70.31	68.52	67.24	75.64	61.63	28/84	27/77	35/76	17/83	41/91
	Nicaragua*	37.50	**	41.67	25.00	35.00	73/84	**	0.82	83/83	84/91
	Panama*	25.00	**	**	33.33	50.00	80/84	**	**	81/83	67/91
	Peru	71.88	67.24	80.56	82.81	77.78	24/84	30/77	12/76	8/83	14/91
	Venezuela*	61.11	28.57	63.64	46.15	60.71	42/84	77/77	39/76	68/83	45/91

Table 3 (continued)

		Score					Rank				
		2021	2020	2019	2018	2017	2021	2020	2019	2018	2017
Asia	China*	28.57	**	**	41.67	44.44	79/84	**	**	73/83	75/91
	Kazakhstan	41.67	**	**	**	77.78	66/84	**	**	**	15/91
	Kyrgyzstan*	40.00	**	**	**	**	70/84	**	**	**	**
	Mongolia*	60.00	**	**	**	65.00	45/84	**	**	**	36/91
Europe	Finland	72.73	71.88	86.67	65.63	82.50	21/84	23/77	4/76	31/83	6/91
	Greenland*	50.00	66.67	65.00	56.25	69.57	57/84	31/77	36/76	54/83	30/91
	Ireland, Republic of	63.64	68.18	75.00	65.00	74.00	35/84	28/77	23/76	35/83	23/91
	Northern Ireland*	43.75	55.56	**	61.11	44.12	65/84	53/77	**	44/83	76/91
	Norway	45.00	45.00	61.11	45.83	53.57	63/84	65/77	42/76	69/83	61/91
	Russia*	62.50	75.00	**	78.57	72.22	37/84	19/77	**	15/83	27/91
	Spain*	10.00	30.00	**	55.56	55.56	84/84	76/77	**	55/83	56/91
	Sweden	75.00	57.14	76.92	65.63	67.39	17/84	50/77	20/76	32/83	32/91
	Turkey	50.00	85.71	83.33	54.55	52.50	59/84	3/77	6/76	57/83	62/91

Notes:

* Between 5 and 9 responses on one or more questions

** Not Available

The jurisdiction with the most attractive policies receives a score of 100 and the jurisdiction with the policies that pose the greatest barriers to investment receives a score of 0.

Best Practices Mineral Potential Index

Table 3 and figure 5 show the mineral potential of jurisdictions, assuming their policies are based on "best practices" (i.e., world class regulatory environment, highly competitive taxation, no political risk or uncertainty, and a fully stable mining regime). In other words, this figure represents, in a sense, a jurisdiction's "pure" mineral potential, since it assumes a "best practices" policy regime.

The "Best Practices Mineral Potential" index ranks the jurisdictions based on which region's geology "encourages exploration investment" or is "not a deterrent to investment." Since the "Encourages" response expresses a much more positive attitude to investment than "Not a Deterrent," in calculating these indexes we give "Not a Deterrent" half the weight of "Encourages." For example, the "Best Practices Mineral Potential" for Saskatchewan was calculated by adding the percent of respondents who rated mineral potential as "Encourages Investment" (76 percent) with the 21 percent who responded "Not a Deterrent to Investment," which was half weighted at 11.5 percent. Thus, in the

2021 survey Saskatchewan has a score of 86, taking into account rounding. Table 3 provides more precise information and the recent historical record.

A caveat

This survey captures both general and specific knowledge of respondents. A respondent may give an otherwise high-scoring jurisdiction a low mark because of his or her individual experience with a problem there. We do not believe this detracts from the value of the survey. In fact, we have made a particular point of highlighting such differing views in the survey comments and the "What miners are saying" quotes.

It is also important to note that different segments of the mining industry (exploration and development companies, say) face different challenges. Yet many of the challenges the different segments face are similar. This survey is intended to capture the overall view.

Global Survey Rankings

The top

The top jurisdiction in the world for investment based on the Investment Attractiveness Index is Western Australia, which moved up from 4th place in 2020 (see table 1). Saskatchewan moved into 2nd place after ranking 3rd in 2020. Nevada's rank decreased from 1st last year to 3rd this year while Alaska moved a spot from 5th in 2020 to 4th in 2021. Arizona (5th) continues to be in the top five this year after ranking 2nd in 2020. Rounding out the top 10 are Quebec, Idaho, Morocco, the Yukon, and South Australia. Morocco and the Yukon were the only jurisdictions that featured in the top 10 this year that did not appear in the top 10 in 2020.

The United States has the most jurisdictions (4) in this year's top 10, followed by Canada (3), Australia (2), and Africa (1).

The Republic of Ireland had the highest PPI score of 100 this year, displacing Idaho as the most attractive jurisdiction in terms of policy. Morocco, which did not appear in the ranking last year, ranked 2nd in 2021. Northern Ireland climbed eleven spots and ranked 3rd this year. Along with the Republic of Ireland, Morocco, and Northern Ireland, the top 10 ranked jurisdictions based on PPI scores are Western Australia, Quebec, Nevada, Utah, Saskatchewan, Finland, and Alberta.

Europe and Canada are the regions with the most jurisdictions (3 each) in the top 10 followed by the United States (2), Australia (1), and Africa (1).

Finland, the Republic of Ireland, Nevada, and Saskatchewan have ranked consistently in the PPI top 10 over the last nine surveys. Table 2 illustrates in greater detail the shifts in the relative ranking of the policy perceptions of the jurisdictions surveyed.

The bottom

When considering both policy and mineral potential in the Investment Attractiveness Index, Zimbabwe ranks as the least attractive jurisdiction in the world for investment. This year, Zimbabwe replaced Venezuela as the least attractive jurisdiction in the world. Also, in the bottom 10 (beginning

with the worst) are Spain, the Democratic Republic of Congo (DRC), Mali, Nicaragua, China, Panama, Argentina: Mendoza, Venezuela, and South Africa.

The 10 least attractive jurisdictions for investment based on the PPI rankings are (starting with the worst) Venezuela, Philippines, Argentina: Chubut, Nicaragua, Argentina: Mendoza, Zimbabwe, the Democratic Republic of Congo (DRC), Bolivia, Kyrgyzstan, and Mongolia.

Venezuela, Argentina: Chubut, Zimbabwe, Bolivia, Argentina: Mendoza, and the Democratic Republic of Congo (DRC) were all also in the bottom 10 jurisdictions last year.

Global Results

Canada

Canada's median PPI score remained almost flat this year (a 0.21 point decrease) and three Canadian jurisdictions—Quebec (5th), Saskatchewan (8th), and Alberta (10th)—rank in the PPI top 10 this year. Canada is now the highest ranked region based on policy alone with a score of 81.6 after ranking third last year. When considering how Canadian jurisdictions rank on the Investment Attractiveness Index, Canada is the second most attractive region in the world for investment after Australia given its policy performance (1st) and its geologic attractiveness (ranked 2nd in the Best Practices Mineral Potential Index). This year, Saskatchewan (2nd), Quebec (6th), and the Yukon (9th) ranked in the top 10 in terms of investment attractiveness.

Focusing on policy alone (and not overall investment attractiveness), British Columbia's PPI score remained almost flat this year (up 0.40 points). However, British Columbia's relative rank increased this year, coming in at an overall ranking of 28th (out of 84) after ranking 41st (out of 77) last year.[4] This year respondents expressed increased concern over the province's legal system (+7 points),[5] and decreased concern over the uncertainty concerning disputed land claims (-19 points).

Particularly, the uncertainty around environmental regulations, disputed land claims, and protected areas are the three main policy factors that continue to significantly hamper British Columbia's mining competitiveness. The sum of negative responses citing these three areas as deterrents to investment was 63 percent, 60 percent, and 75, respectively. Investor concerns related to disputed land claims and protected areas likely reflect the ongoing tensions in the province over land title issues.[6]

[4] Rankings are based on a jurisdiction's score relative to those of the other ranked jurisdictions. As a result, a jurisdiction may experience a drop or increase in rank when its year-over-year score is unchanged.

[5] The numbers in brackets show the difference between the total percentage of respondents that rate a particular policy factor as either a mild deterrent to investment, a strong deterrent to investment, or that they would not pursue investment due to this factor from 2020 to 2021 (i.e., the change in percentage points).

[6] See Ravina Bains (2014), *A Real Game Changer: An Analysis of the Supreme Court of Canada* Tsilhqot'in Nation v. British Columbia *Decision*, Fraser Institute; and Ravina Bains (2015), *Economic Development in Jeopardy? Implications of the* Saik'uz First Nation *and* Stellat'en First Nation v. Rio Tinto *Decision*, Fraser Institute. Both available at www.fraserinstitute.org.

Alberta's PPI score decreased by 1.5 points this year but went from ranking 18th in 2020 to 10th in 2021. This year, respondents for Alberta expressed increased concern over the availability of labour skills (+21 points) and political stability (+17 points). The province, however, decreased its share of negative responses around disputed land claims (-29 points) and the uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-21 points). Despite being in the top 10 most attractive jurisdictions based on policy alone, the province ranks 30th in the overall Investment Attractiveness Index due to a lack of geologic attractiveness in the eyes of investors (ranked 50th out of 84 in the Best Practices Mineral Potential Index).

Despite reducing its PPI score by 4 points, Saskatchewan climbed one spot in the PPI ranking from 9th in 2020 to 8th in 2021. Respondents expressed decreased concerns over the province's infrastructure (-13 points), taxation regime (-6 points), and trade barriers (-3 points) while raised concerns over the uncertainty concerning disputed land claims (+17 points) and protected areas (+11 points). Saskatchewan's policy performance matches its positive perception of its geologic attractiveness—the province ranks 4th in terms of mineral potential—which is why it ranks 2nd in the overall Investment Attractiveness Index.

Manitoba's PPI score decreased 6 points this year, but its position in the ranking slightly rose from 58th (of 77) in 2020 to 57th (of 84) in 2021. Manitoba's rank remains far behind where it was in 2016 when the province ranked 6th (of 104). In particular, uncertainty concerning disputed land claims (79 percent of respondents cited this factor as a deterrent to investment), protected areas (75 percent of respondents), and uncertainty concerning environmental regulations (67 percent of respondents – up 25 percentage points this year) are the three policy areas that continue to thwart Manitoba's PPI score.

Ontario's PPI score increased by 2.3 points this year and its rank improved from 31st in 2020 to 17th in 2021. This year, respondents expressed decreased concern over the uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-25 points), regulatory duplication and inconsistencies (-19 points), and infrastructure (-15 points). In addition, investors expressed increased concerns over the province's labour regulations/employment agreements (+8 points) and its geological database (+7 points).

Quebec's PPI score increased by 2.2 points this year, improving its ranking from the 17th spot (of 77) in 2020 to 5th (of 84) in 2021. This year, miners expressed decreased concern over regulatory factors including regulatory duplication and inconsistencies (-15 points), environmental regulations (-13 points), and the uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-10 points). Quebec is the 6th most attractive jurisdiction in the world for mining investment due to its good policy performance (5th) and its relative geologic attractiveness (15th).

Newfoundland & Labrador saw its PPI score decrease significantly by almost 13 points this year, and, as a result, went from ranking 8th (of 77) in 2020 to 18th (of 84) in 2021 in the PPI ranking. This year, miners expressed significant concerns over socioeconomic agreements and community development conditions (-40 points), labour regulations/employment agreements (-26 points), and the uncertainty around protected areas (-23 points).

New Brunswick saw its PPI score decline by almost 4 points but it nonetheless increased in the ranking from 19th (of 77) in 2020 to 14th (of 84) in 2021. Respondents expressed increased concerns over socioeconomic agreements/community development conditions (+20 points), labour regulations/employment conditions (+19 points), regulatory duplication and inconsistencies (+16 points).

The Yukon, which ranked 6th in the Best Practices Mineral Potential Index, increased its PPI score by 3 points and ranked 23rd in the PPI ranking. This year respondents indicated decreased worries over the territories' environmental regulations (-16 points), socioeconomic agreements/community development conditions (-16 points), and the uncertainty concerning protected areas (-13 points). Due to its geologic attractiveness, the Yukon ranked 9th in the overall Investment Attractiveness Index.

Overall, the three main policy factors hindering Canada's mining competitiveness are the uncertainty concerning protected areas (57 percent of average negative responses), disputed land claims (51 percent), and environmental regulations (45 percent).

Comments: Canada

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

Alberta

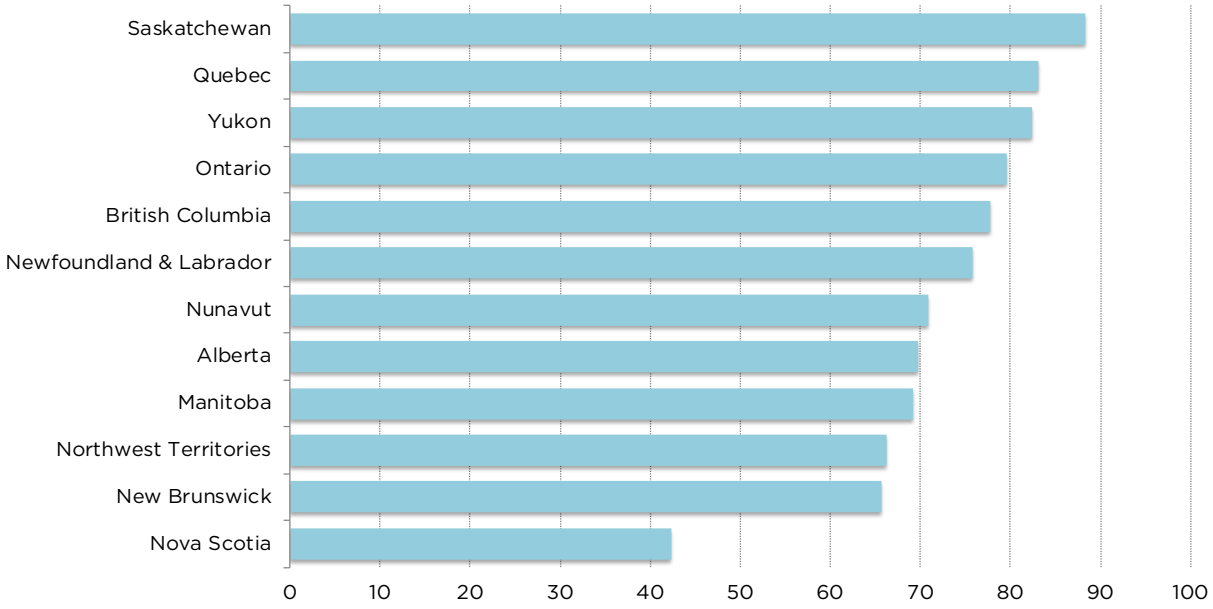
> *The province's recent decision to halt all coal exploration in the Foothills and the Rockies hurts the industry and signals policy uncertainty.*
> —A consulting company, Company manager

British Columbia

> *Infrastructure associated with the industry has seen a noticeable deterioration in the past several years.*
> —An exploration company, Company president

> *Revenue sharing agreements in the province incentivizes First Nations to work with companies towards successful mining development.*
> —An exploration company, Company vice-president

Figure 6: Investment Attractiveness Index—Canada



* Between 5 and 9 responses

Excessively long permit times and excessive regulations are major detractors to exploration.
—An exploration company, Company president

Manitoba

The establishment of parks and protected areas without consultation of the industry hurts the province's competitiveness.
—An exploration company, Company president

Rules around First Nations consultations are vague and uncertain.
— An exploration company, Company president

Newfoundland & Labrador

Lengthy permit application processes with regulatory roadblocks at the municipal level prevent new mining developments.
— An exploration company, Company president

The province's digital framework for online mineral claims, lease management, and regulatory reporting is a useful tool for the industry.
— A consulting company, Company president

Northwest Territories

Regulatory duplication and inconsistencies, coupled with a lack of collaboration from regulatory authorities, are major areas of concern for investors.
— A producer company with more than US$50M, Company manager

Ontario

The tax on diamond projects prevents diamond development in the province.
—An exploration company, Company president

The government routinely supports exploration and sharing of exploration data in mining districts to allow others to build on that information.
—A production company with more than US$50M, Company manager

Quebec

The uranium moratorium continues to hurt Quebec's ability to supply this critical mineral.
—A consulting company, Manager

Quebec has an excellent permitting regime.
—A consulting company, Consultant

Saskatchewan

Permit timelines have increased substantially in the province.
—An exploration company, Company president

Yukon

Sub-regional land use planning and new permit requirements have been recent impediments to exploration.
—An exploration company, Company president

The United States

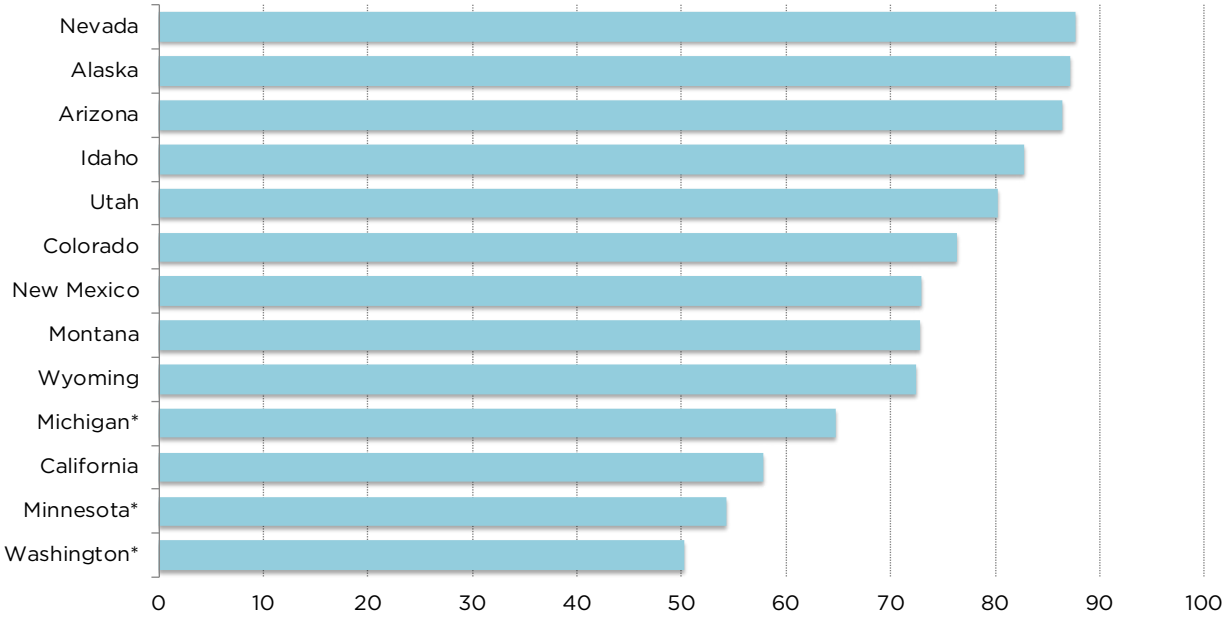
The United States' median investment attractiveness score declined by 0.52 points this year. Based on policy factors and mineral potential, the most attractive state to pursue exploration investment continues to be Nevada, which this year ranked as the third most attractive jurisdiction in the world. Alaska (4th), Arizona (5th), and Idaho (7th) also feature in the top 10 most attractive jurisdictions globally for mining investment.

Based on the region's median investment attractiveness score, the United States is the third most attractive region in the world for mining investment, behind Canada and Australia. The median PPI score for the United States, however, declined significantly—by almost 13 points—and is no longer the top-ranked region based on policy alone. The state with the most attractive policy environment is Nevada, which ranked 6th in the world. This year, two US jurisdictions—Nevada (6th) and Utah (7th)—ranked in the global top 10 based on policy.

This year, all US states saw a deterioration in their PPI scores. Minnesota (-19.9 points), Idaho (-16.4 points), and New Mexico (-15.0 points) saw the largest PPI score declines.

Idaho, which last year was the most attractive jurisdiction based solely on policy, ranked 15th this year. Respondents expressed increased concerns over the uncertainty regarding the administration,

Figure 7: Investment Attractiveness Index—United States



* Between 5 and 9 responses

interpretation, or enforcement of existing regulations (+41 points), the state's socioeconomic agreements/community development conditions (+36 points), and the uncertainty concerning disputed land claims (+29 points).

Wyoming's PPI score declined by 12 points and, subsequently, dropped out of the top 10 (ranked 2nd in 2020). This year, Wyoming ranked 11th with a PPI score of 87.4. Miners expressed heightened concerns over the state's socioeconomic agreements/community development (+25 points), its geological database (+23 points), and the uncertainty around protected areas (+21 points).

Arizona is another US jurisdiction that dropped out of the top 10 most attractive jurisdictions based on policy. The state saw an 11-point decline in its PPI score and went from ranking 7th (of 77) in 2020 to 12th (of 84) in 2021. Relative to last year's survey, respondents expressed significant concerns over regulatory duplication and inconsistencies (+32 points), uncertainty concerning disputed land claims (+30 points), and socioeconomic agreements/community development conditions (+28 points). Given its geologic attractiveness—ranked 3rd in the Best Practices Mineral Potential Index—and its relatively good policy performance (12th), the state ranks 5th in the overall Investment Attractiveness Index.

Nevada is another example of a jurisdiction that matches its geological attractiveness (ranked 5th in the Best Practices Mineral Potential Index) with investment-friendly policies (ranked 6th based on policy alone). For instance, only 5 percent of respondents indicated that trade barriers deter investment and just 7 percent claimed that the state's infrastructure and political stability discouraged investment. The average negative response by survey respondents for the state was only 14 percent. Nevada is the third most attractive jurisdiction globally for mining investment.

California continues to be the least attractive jurisdiction in the US based on policy alone, despite increasing its position in the ranking from 62nd (of 77) in 2020 to 55th (of 84) in 2021. Regulatory factors continue to deter investment from the state. In particular, 93 percent of respondents expressed concerns over the uncertainty surrounding environmental regulations while 80 percent indicated that the administration, interpretation, and enforcement of existing regulations and regulatory duplication and inconsistencies were dissuading investment.

Comments: United States

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

Alaska

Long expiration dates for permits simplify the permitting process.
—An exploration company, Company president

Arizona

New federal regulations around waterways in jurisdictions like Arizona are having an impact on the permitting process.
—An exploration company, Company manager

California

Approval of new exploration permits is impossible given the regulatory environment.
—An exploration company, Company vice-president

Idaho

Forestry Services are an impediment to exploration processes and activities.
—An exploration company, Company president

Idaho supports and encourages responsible mining exploration and development.
—An exploration company, Company president

Nevada

The new mining tax increases costs for the industry and discourages new investment.
—An exploration company, Company manager

Permits are always reviewed in the established timelines.
—An exploration company, Company president

Utah

Government officials are very helpful and knowledgeable.
— An exploration company, Company president

Australia and Oceania

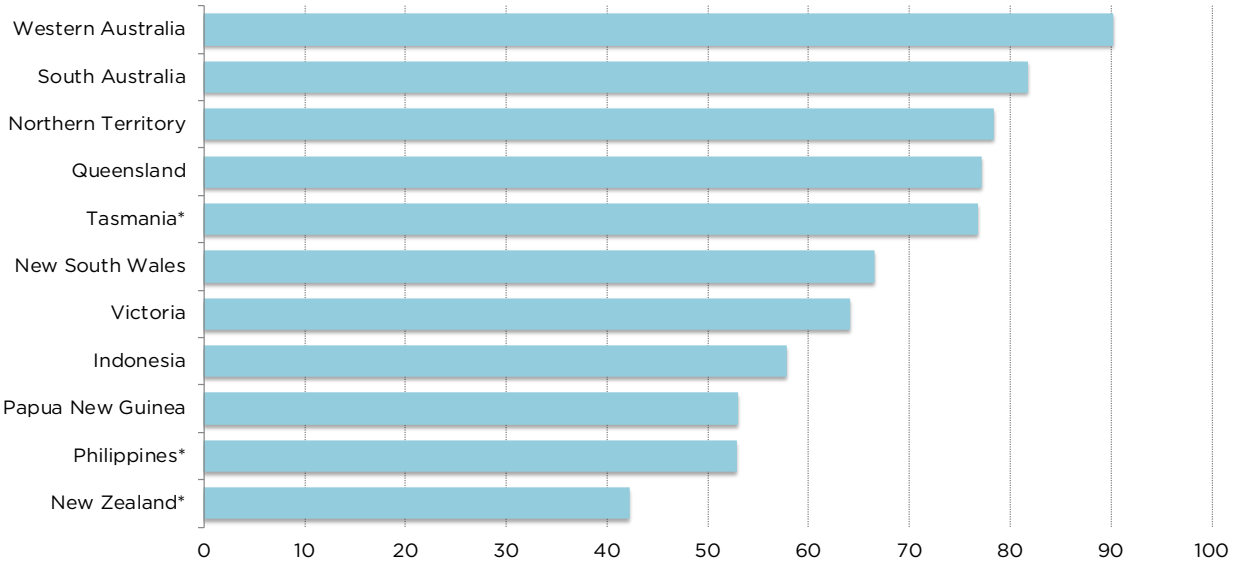
Considering both policy and mineral potential, Australia continues to be the most attractive region in the world for mining investment. Western Australia (1st) and South Australia (10th) appeared in the global top 10 on the Investment Attractiveness Index in this year's survey.

All Australian jurisdictions saw declines in their PPI scores this year in comparison with the results from 2020. Tasmania (-12 points) and Victoria (-11 points) experienced the largest declines. Respondents for Tasmania indicated increased concerns over its labour regulations/employment agreements (+45 points), political stability (+38 points), and the uncertainty around protected areas (+38 points). Similarly, respondents for Victoria expressed a policy deterioration regarding the uncertainty around environmental regulations (+31 points), its labour regulations/employment agreements (+31 points), and its legal system (+30 points).

South Australia's PPI ranking remained the same (16th) despite an almost 8-point decline in its PPI score. Miners pointed out a deterioration in the policy areas of political stability (+23 points), labour regulations/employment agreements (+22 points), and availability of labour/skills (+19 points).

Western Australia continues to be Australia's highest ranked jurisdiction when considering policy factors. Despite reducing its policy score by almost 2 points, the state went from ranking 11th (of 77) in 2020 to 4th (of 84) in 2021. The state performs particularly well in the areas of geological database,

Figure 8: Investment Attractiveness Index—Australia and Oceania



* Between 5 and 9 responses

security (both with no respondents claiming these factors deter investment), political stability, and trade barriers (both with only 5 percent of respondents indicating these factors discouraged investment). In fact, the average negative response by mining executives for Western Australia was only 14 percent. Its relatively good policy performance (4th), combined with its geological attractiveness (ranked 1st in terms of mineral potential), is why the state ranked 4th this year on the overall Investment Attractiveness Index.

Within Oceania, all ranked jurisdictions saw declines in their PPI scores this year with the exception of the Philippines, which did not feature in last year's survey. In terms of policy, of the least attractive jurisdictions, Oceania is second to last. New Zealand saw a 35-point decline in its PPI score and went from ranking 32nd (of 77) in 2020 to 70th (of 84) this year. This year, miners expressed significant concerns over its labour regulations/employment agreements (+80 points), taxation regime (+60 points), and political stability (+60 points).

This year, the Philippines is the lowest ranking jurisdiction in Oceania when considering policy alone and second to last in the global ranking (83rd out of 84). All respondents indicated that the uncertainty concerning environmental regulations, regulatory duplication and inconsistencies, the country's legal system, its taxation regime, the uncertainty concerning disputed land claims, its political stability, and security were all policy factors that deter investment.

Comments: Australia and Oceania

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

New South Wales

> *Too much red tape and wasted time during the permitting approval process.*
> —An exploration company, Consultant

Northern Territory

> *Regulatory reform, the new increase in royalties, and the adoption of a levy on environmental bonds are major concerns for investors.*
> — A producer company with less than US$50M, Company president

Philippines

> *The ban on open-pit mining is deterring investment.*
> —An exploration company, Company president

Queensland

> *The subjective and unpredictable regulatory process is preventing new mining developments.*
> — An exploration company, Company president

Western Australia

> *The online portal for tenement application, report submissions, and work permits is clear, logically structured, transparent, and highly efficient.*
> —An exploration company, Company president

Africa

The median score for Africa on the Investment Attractiveness Index showed a decrease of almost 9 points this year. With a median score of 51.87, Africa is the second least attractive region for mining investment when accounting for both mineral potential and policy according to miners. In addition, Africa's median PPI score decreased by almost 1 point. All African jurisdictions, with the exception of Namibia, Tanzania, and Mauritania saw declines in their policy scores.

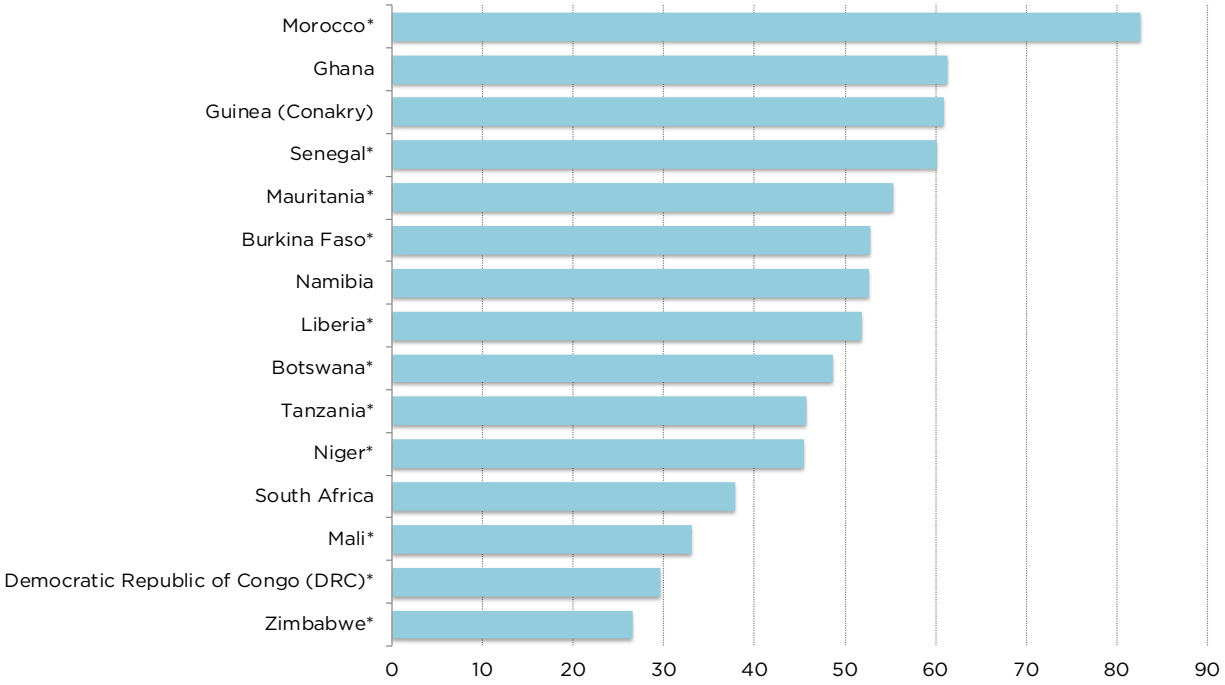
Two African countries— Zimbabwe (79th) and the Democratic Republic of Congo (78th)—ranked in the bottom 10 of the survey rankings this year based on policy. Based on their overall investment attractiveness scores four African jurisdictions were ranked in the global bottom 10: Zimbabwe (84th), the Democratic Republic of Congo (82nd), Mali (81st), and South Africa (75th).

Botswana is no longer the highest ranked jurisdiction in Africa on policy, ranking 31th (of 84) this year after ranking 15th (of 77) in 2020. Botswana's significant decrease in its PPI score—a 22 percent drop—reflects increased concerns over the uncertainty concerning protected areas (+63 points), its political stability (+38 points), its labour regulations/employment conditions (+38 points), and its taxation regime (+38 points).

Morocco, which did not feature in last year's survey, is now the highest ranked jurisdiction in Africa and the second highest ranked jurisdiction globally based on policy. The kingdom performs particularly well in the areas of the administration, interpretation, or enforcement of existing regulations, environmental regulations, regulatory duplication and inconsistencies, protected areas, and labour regulations/employment agreements. No respondents indicated these policy factors deterred investment.

Mali saw a significant decline in its PPI score (almost 29 points) and went from ranking 37th (of 77) in 2020 to 66th (of 84) this year. Investors expressed increased concerns over the country's regulatory

Figure 9: Investment Attractiveness Index—Africa



* Between 5 and 9 responses

duplication and inconsistencies (+69 points), its socioeconomic agreement/community development conditions (+65 points), and its legal system (+53 points).

Tanzania was one of three African jurisdictions (Namibia and Mauritania being the other two) that improved its PPI score relative to last year (an increase of almost 3 points). The country went from ranking 72nd (of 77) in 2020 to 63rd (of 84) this year. Miners expressed decreased concerns over regulatory duplication and inconsistencies (-50 points), uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-38 points), and uncertainty concerning disputed land claims (-21 points).

On the other hand, Zimbabwe, the lowest-ranked African jurisdiction based on policy (79th) and the least attractive jurisdiction for mining investment globally, experienced an almost 11-point decline in its policy score. All respondents claimed that the uncertainty regarding the administration, interpretation, or enforcement of existing regulations, the country's legal system, its taxation regime, its infrastructure, trade barriers, its political stability, and security were major areas of concern that discouraged investment in the country.

Comments: Africa

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

Mauritania

The government's permissiveness with illegal mining is hurting the industry and discourages investment in new mines.
— A consulting company, Consultant

Mali

Political instability and constant terrorist attacks are major deterrents to investment.
— An exploration company, Company president

Morocco

Lack of transparency in the permitting process is a major concern for investors.
— A consulting company, Company president

Namibia

Lengthy permitting process prevents projects from being developed.
— An exploration company, Company vice-president

Non-deductibility of royalty payments prevents the sector from minimizing costs and hurts the industry's competitiveness.
— A producer company with less than US$50M, Company president

Tanzania

Excessive taxation is discouraging investment in the country.
— A consulting company, Consultant

Argentina, Latin America, and the Caribbean Basin

This year, Argentina ranked as the 5th most attractive region in the world for investment with a median investment attractiveness score of 58.99. The country experienced a decline in its PPI score from 74.67 in 2020 to 66.80 this year, an almost 8-point drop. All Argentinian provinces experienced a decline in their PPI scores with the exceptions of La Rioja (48th) and San Juan (26th). In particular, two Argentinian provinces—Chubut (82nd) and Mendoza (80th)—now sit in the bottom 10 globally

when it comes to policy. When considering both mineral potential and policy factors, Mendoza (77th) is in the bottom 10 jurisdictions globally.

Salta (20th of 84) continues to be the best ranked Argentinian province when considering policy alone despite a decline in its PPI score (-6.7 points) this year. The province performs particularly well in the areas of security (only 4 percent of average negative responses), environmental regulations (12 percent of average negative responses), and the administration, interpretation, or enforcement of existing regulations (15 percent of average negative responses).

Mendoza saw the largest decline in its PPI score (a 40 percent drop) and went from ranking 73rd (of 77) in 2020 to 80th (of 84) in 2021. Miners expressed increased concerns over the province's security (+48 points), the uncertainty concerning disputed land claims (+28 points), and its political stability (+26 points).

In Latin America and the Caribbean Basin, the median investment attractiveness score decreased by 6.21 this year (a 10 percent drop) and is now the fourth least attractive region for mining investment globally. Based on their investment attractiveness scores, three jurisdictions in this region—Nicaragua (80th), Panama (78th), and Venezuela (76th)—ranked in the bottom 10 globally.

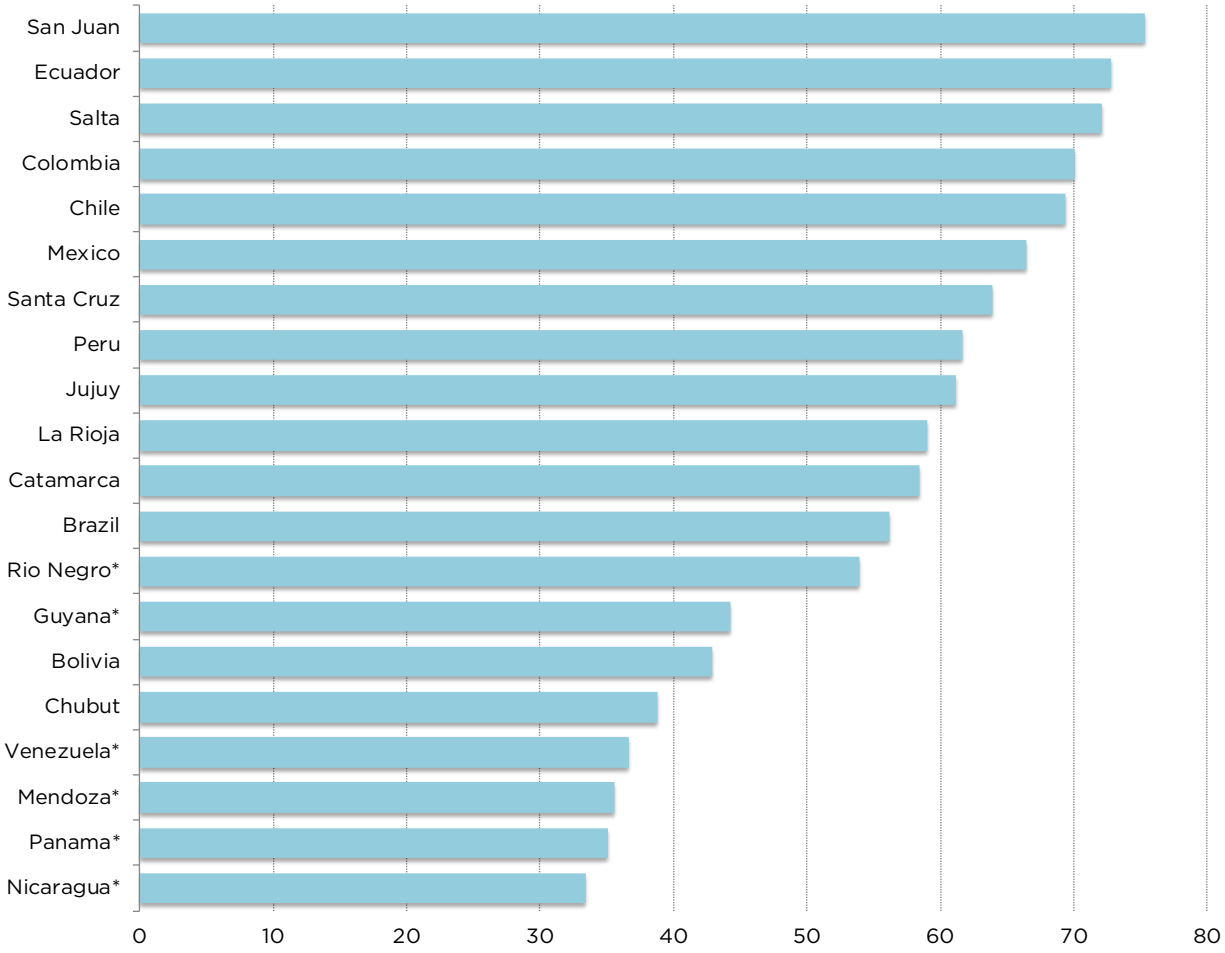
Based solely on policy, Venezuela (84th), Nicaragua (81st), and Bolivia (77th) featured in the bottom 10 jurisdictions. For 11 years in a row, Venezuela continues to be the least attractive jurisdiction in the world based solely on policy.

The median PPI score for Latin America and the Caribbean Basin declined by 17.5 points since 2020 (a 27 percent drop)—the largest single regional decline. Overall, Chile (38th), Ecuador (45th), Colombia (51st), and Mexico (54th) are the most attractive jurisdictions in the region for investment, based on policy.

Despite being the highest ranked Latin American jurisdiction in terms of policy, Chile declined by 14.2 points (a 17 percent drop) in its policy score this year. Miners in Chile expressed increased concerns over the country's legal system (+26 points), the uncertainty concerning disputed land claims (+26 points), and regulatory duplication and inconsistencies (+24 points). Respondents identified Chile's political stability (61 percent of average negative responses) as the major policy factor deterring investment possibly reflecting the ongoing constitutional reform.

Peru saw a decline in its PPI score of almost 29 points, the single largest PPI score decline in Latin America and the Caribbean Basin. Respondents raised significant issues around environmental regulations (+49 points), regulatory duplication and inconsistencies (+40 points), and security (+31 points).

Figure 10: Investment Attractiveness Index—Argentina, Latin America, and the Caribbean Basin



* Between 5 and 9 responses

Ecuador, on the other hand, was the only Latin American jurisdiction that experienced an increase in its PPI score—a rise of 20 percent. Miners are less worried about the uncertainty regarding the administration, interpretation, and/or enforcement of existing regulations (-54 points), the availability of labour/skills (-39 points), and the country's political stability (-36 points).

Comments on Argentina, Latin America, and the Caribbean Basin

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

Catamarca

Introduction of an export tax by the national government and ongoing currency restrictions are deterring investment.
— A producer company with more than US$50M, Other senior management

Chile

Environmental and social permitting regulations are vague and unclear.
— An exploration company, Company president

The constitutional reform taking place and the prospects of a new hostile government are creating a highly uncertain policy environment for the mining sector.
— A consultant company, Consultant

Colombia

Legislative and electoral uncertainty are deterring investment in Colombia.
— A consultant company, Consultant

Mexico

The federal government's new moratorium on mining concessions is an industry-killer.
— A consulting company, Company manager

The federal government's proposal to exclude or limit private participation in the exploration and production of minerals related to the energy sector has created uncertainty in the sector.
— A producer company with more than US$50M, Company manager

Peru

The new administration's announcement to sharply increase mining taxes and potentially intervene in the sector has made companies hesitant to make new investments.
— A producer company with less than US$50M, Company president

Salta

Mining authorities are scrupulous in the regulation of the sector, providing legal stability and meaningful consultation with stakeholders.
— A producer company with less than US$50M, Company president

Venezuela

> *The nationalization of the resource sector and the constant interference of the government in licensing make it impossible to invest in Venezuela.*
> — An exploration company, Company president

Asia

Asia was once again included in the analysis—the first year since 2018.[7] With a median policy score of 40.55, Asia is the lowest ranked region globally. When we account for both mineral potential and policy performance, Asia is also the least attractive jurisdiction in the world for mining investment. Consequently, Kyrgyzstan (76th) and Mongolia (75th) are in the global bottom 10 jurisdictions based on policy.

All respondents for Kyrgyzstan and Mongolia indicated that the taxation regime in those jurisdictions was a major concern for investors. Also, 80 percent of respondents for both countries claimed that socioeconomic agreement/community development, trade barriers, and security discouraged investment.

Kazakhstan (56th) is the highest ranked Asian jurisdiction when it comes to policy. However, the country performs poorly in its legal system (77 percent of average negative responses), its taxation regime, labour regulations, and geological database (all three with 67 percent of average negative responses).

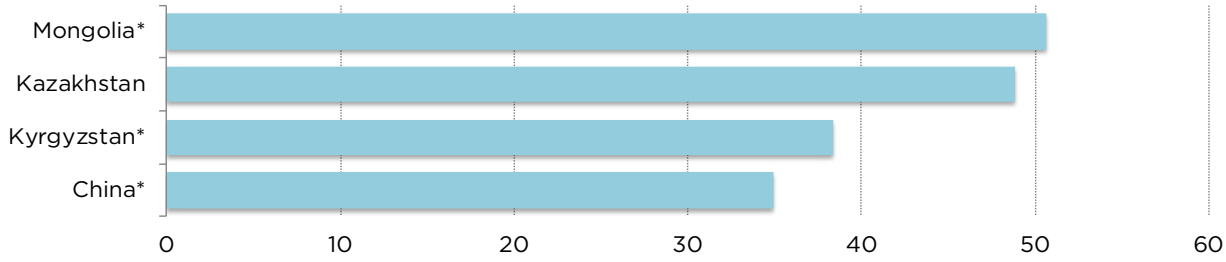
According to investors, regulatory factors are the key issues deterring investment in China. For instance, 88 percent of respondents indicated that the uncertainty concerning environmental regulations, regulatory duplication and inconsistencies, and legal system were major areas of concern for investors. In addition, all respondents claimed that the administration, interpretation, and/or enforcement of existing regulations deterred investment in China.

Comments: Asia

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

[7] No Asian jurisdiction received at least 5 responses in the last two surveys.

Figure 11: Investment Attractiveness Index—Asia



* Between 5 and 9 responses

China

Ongoing regulatory changes are scaring away foreign investment in China.
— An exploration company, Company president

Kazakhstan

The country's lengthy permitting process and its unstable taxation regime are major areas of concern for investors.
— A producer company with more than US$50M, Other Senior Management

Europe

Europe's median investment attractiveness score decreased by almost 8 points this year compared to its 2020 results (an 11 percent drop). This year, no European jurisdiction featured in the global top 10 based on investment attractiveness—the first time that has happened since 2018. All European jurisdictions saw declines in their investment attractiveness score in 2021 with the exception of Sweden (+8 points). Turkey (-27 points), Spain (-20 points), and Greenland (-15 points) saw the most substantial decreases. The lowest ranked European jurisdiction in terms of investment attractiveness is Spain 83rd (of 84).

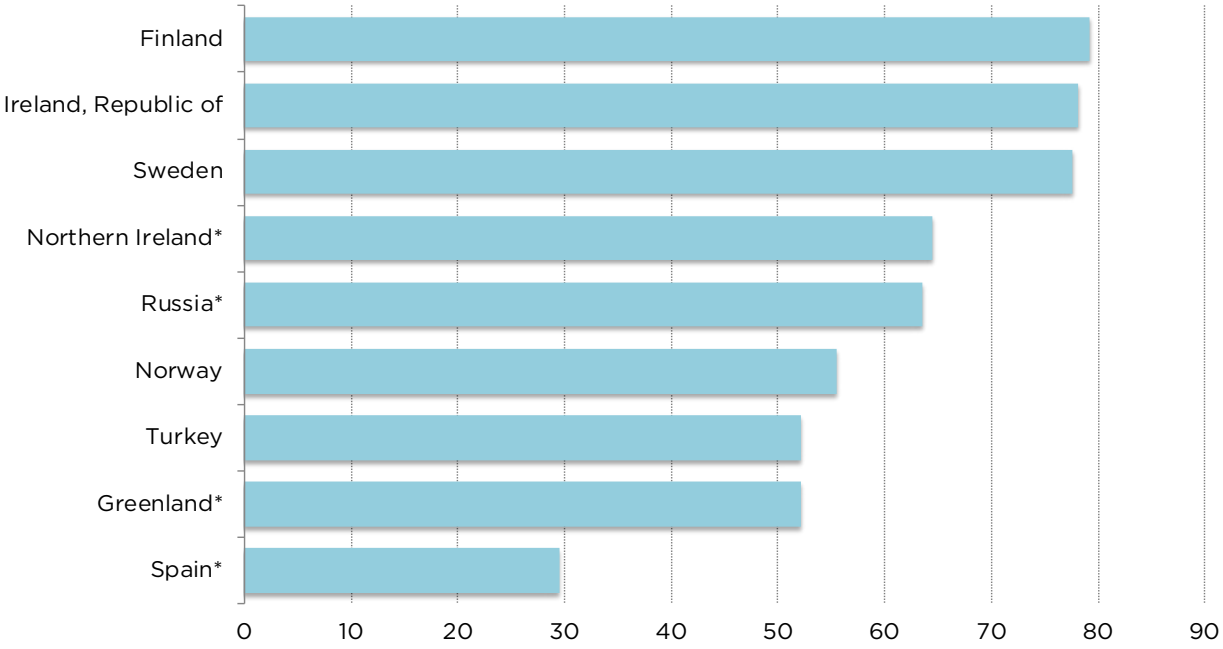
Despite reductions in their overall investment attractiveness scores, this year, the Republic of Ireland (1st), Northern Ireland (3rd), and Finland (9th) featured in the global top 10 on policy, with scores of 100.0, 95.53, and 88.86 points respectively. The Republic of Ireland saw its PPI score increase by 1.3 points, and the country went from ranking from 4th (of 77) in 2020 to 1st (of 84) in 2021. Miners expressed decreased concerns over the administration, interpretation, and

enforcement of existing regulations (-25 points), its environmental regulations (-14 points), and its political stability (-10 points). Average negative responses for the Republic of Ireland was only 12 percent.

Finland (9th) saw a decrease of 10 points in its PPI score this year after ranking 3rd in 2020. Investors expressed increased concerns over uncertainty concerning disputed land claims (+19 points), protected areas (+19 points), and its infrastructure (+18 points).

In addition, Spain saw a considerable decline in its PPI score and rank in 2021. This year, the country decreased its PPI score by 21 points and decreased its position in the rankings from 34th (of 77) in 2020 to 58 (of 84) in 2021. Miners expressed significant concerns over socioeconomic agreements/community development (+60 points), its taxation regime (+51 points), and the uncertainty around disputed land claims (+46 points). The country performs poorly on environmental regulations, its legal system, its taxation regime, the uncertainty around protected areas, its socioeconomic agreements/community developments, and its labor regulations/employment agreements. A full 80 percent of respondents indicated that these policy factors deter investment in the country.

Figure 12: Investment Attractiveness Index—Europe



* Between 5 and 9 responses

Northern Ireland—the other European jurisdiction besides the Republic of Ireland that increased its PPI score this year (+3.3 points)—went from ranking 14th (of 77) in 2020 to 3rd (of 84) in 2021. Miners looked more favorably this year on the country's political stability (-21 points), its labor regulations/employment agreements (-21 points), and the uncertainty concerning environmental regulations. In the areas of disputed land claims, geological database, and availability of labor/skills Northern Ireland excelled: no respondents claimed these factors deterred investment.

Comments on Europe

The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

Finland

Finland's permitting process provides predictability and reduces costs for companies.
—A producer company with more than US$50M, Other Senior Management

Greenland

The new ban on exploration and production of uranium and other minerals has created an uncertain investment climate.
—An exploration company, Other Senior Management

Northern Ireland

Regional government constantly conducts geological surveys over the entire country.
—A producer company with more than US$50M, Manager

Norway

Municipalities' veto rights create policy uncertainty.
—An exploration company, Company vice president

Republic of Ireland

Efficient online portal with useful data.
—A producer company with more than US$50M, Manager

Sweden

Subjective and uncertain permitting processes continue to hinder Sweden's mining competitiveness.
—An exploration company, Company manager

Overview

An analysis of the regional trends[8] in the results of the Investment Attractiveness Index (based on both mineral potential and policy factors) from the 2021 mining survey indicates a stark difference between geographical regions. As indicated by Figure 13, Australia continues to be the most attractive region in the world for investment this year (two years in a row now), followed by Canada and the United States.

Interestingly enough, all eight regions experienced a decline in their relative investment attractiveness. Africa and Europe experienced a 15 percent and 11 percent decrease in their regional median score from 2020—the two largest declines. Australia and United States, on the other hand, experienced the smallest declines—0.2 percent and 0.7 percent, respectively. Latin America and the Caribbean saw a decrease of 10 percent in its regional median investment attractiveness score while Argentina's declined by 7 percent. Both Oceania and Canada saw a decline of 3 percent in their investment attractiveness score.

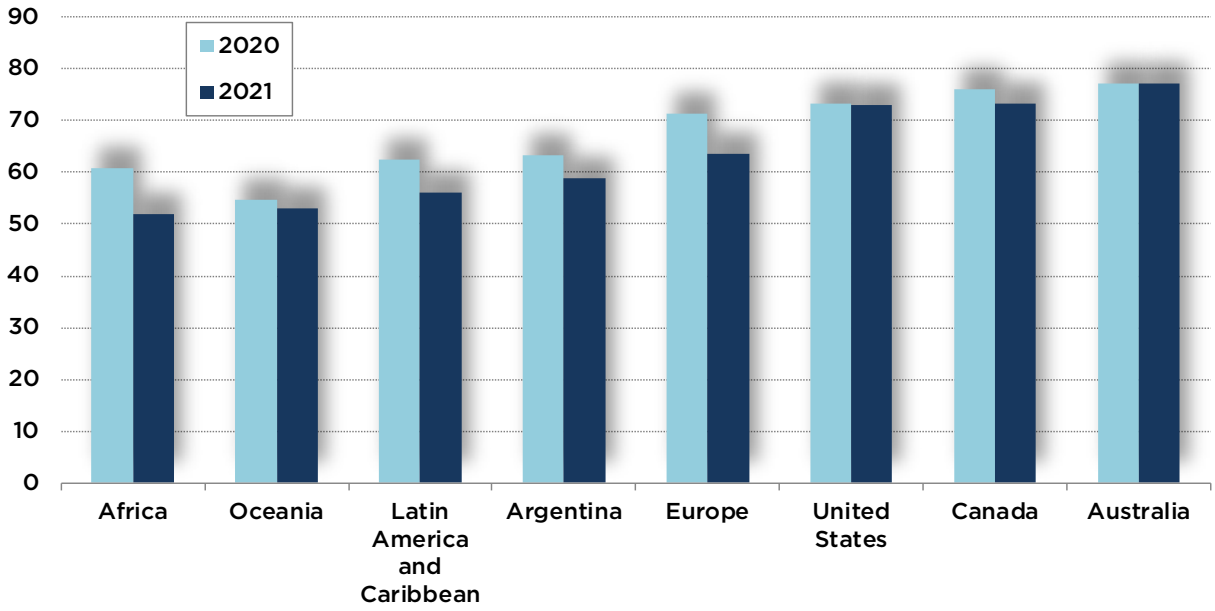
When considering policy alone (figure 14), Canada is now the top performing region after the United States, which has held the top spot since 2018, and despite experiencing a 16 percent decline in its policy score from 2020. Canada's score went from 81.59 in 2020 to 81.38 in 2021, a mere 0.3 percent decline.

Similarly, all regions experienced a decline in their regional median policy scores. Latin America and the Caribbean's median policy score decreased considerably this year—by 27 percent; as a whole, it continues to be the third least attractive region in the survey. Of the regions included in the survey, Oceania continues to have the least attractive policy environment and saw its regional PPI score decline by 18 percent. Other regions with significant declines on their regional PPI score were Europe (16 percent) and Argentina (11 percent).

It is important to highlight the difference in results between regional median investment attractiveness, PPI, and best practices mineral potential index (figure 15). For example, the United States performs less favorably in terms of its mineral potential (3rd), while performing better as a

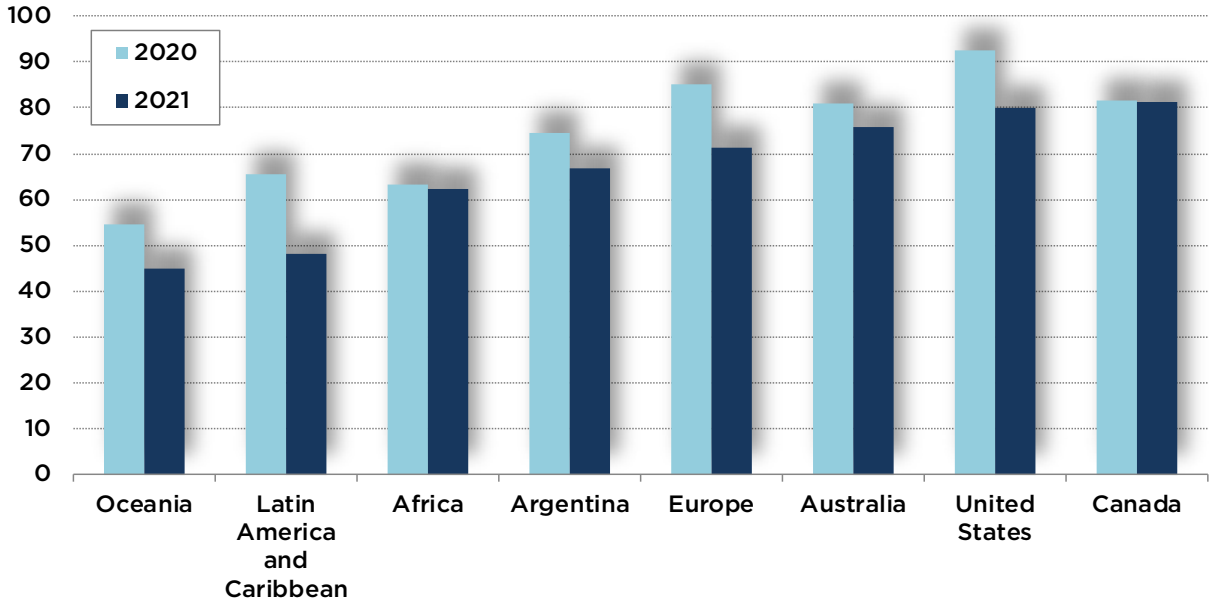
[8] The regional median investment attractiveness scores are calculated based on the jurisdictions included in each year. As a result, the number of jurisdictions included in the regional score will vary year-over-year depending on the number of survey responses.

Figure 13: Regional Median Investment Attractiveness Scores 2020 and 2021



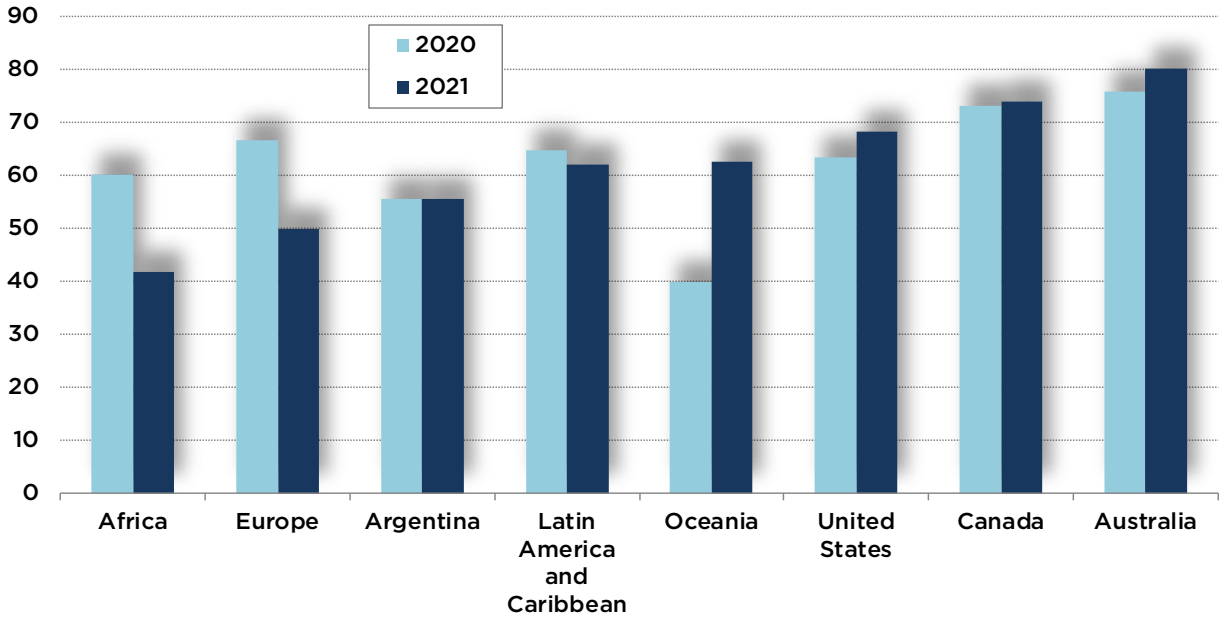
*Asia was not included in 2020 as no jurisdction in this region received sufficient responses.

Figure 14: Regional Median Policy Perception Index Scores 2020 and 2021



*Asia was not included in 2020 as no jurisdction in this region received sufficient responses.

Figure 15: Regional Median Best Practices Mineral Potential Index Scores 2020 and 2021



*Asia was not included in 2020 as no jurisdction in this region received sufficient responses.

region on the PPI (2nd). Overall, the US ranks as the third most attractive region for mining investment, which indicates that investors' views of the US policy environment are what is driving the region's investment attractiveness rank. In contrast, Australia ranks 3rd based on policy alone, but 1st on the best practices mineral potential index. Overall, Australia is ranked as the most attractive region for mining investment indicating that Australia's mineral potential is what is driving its investment attractiveness.

Permit Times for Mining Exploration 2021

This year's sub-survey includes and continues the work of the previous editions of the chapter "Permit Times for Mining Exploration" (2018, 2019, and 2020). It is again an early contribution to attempting to assess the exploration permitting process and its possible effects. As with the 2018,[9] 2019,[10] and 2020[11] reports, we undertook a survey of mining executives who recently applied for exploration permits in Canada's provinces and territories and in a number of jurisdictions around the world to get a better understanding of how timelines for permit approval, transparency, and other issues in the permit approval process differ within Canada and abroad.

The results of this sub-survey will allow for a better understanding of how states, provinces, and territories perform in this area and will serve as a starting point for future research aimed at identifying best practices for exploration permitting. This year's survey gathers data in jurisdictions in Australia, the United States, and Scandinavia, all regions where mining, environmental, and other policies are broadly comparable to those in Canada. This will help gauge Canada's performance as it compares to that of a number of similar jurisdictions. We received insufficient responses for Scandinavia, so it was not included in this year's report of permit times.

To ensure that only individuals with knowledge of mining exploration in the regions included in the exploration permit survey answered the permit-time component of the survey, only those individuals who provided responses for Canada, the United States, Australia, and Scandinavia in the broader survey were allowed access to the sub-survey on exploration permits. Only respondents who had applied for an exploration permit, license, notice of work, or similar document within the last two years were asked to respond to the sub-survey to ensure that only those with the most recent and relevant experience were answering the questions. As a result, 192 executives and managers answered the permit-time component of the survey. Only jurisdictions that had a minimum of five responses were included in the exploration permits study. Table 4 shows those jurisdictions that met

[9] Ashley Stedman and Kenneth P. Green (2019). Permit Times for Mining Exploration in 2018. *Fraser Institute Annual Survey of Mining Companies 2018*. Fraser Institute.

[10] Ashley Stedman, Jairo Yunis, and Elmira Aliakbari (2020). Permit Times for Mining Exploration in 2019. *Fraser Institute Annual Survey of Mining Companies 2019.* Fraser Institute.

[11] Jairo Yunis and Elmira Aliakbari (2021). Permit Times for Mining Exploration in 2020. *Fraser Institute Annual Survey of Mining Companies 2020.* Fraser Institute.

Table 4: Jurisdictions Discussed

Canada	United States	Australia	Scandinavia
British Columbia	Alaska*	New South Wales	Finland*
Manitoba	Arizona*	Northern Territory*	Sweden*
Newfoundland & Labrador*	Idaho*	Queensland	
Northwest Territories*	Nevada	South Australia*	
Nunavut*		Western Australia	
Ontario			
Quebec			
Saskatchewan			
Yukon			

*Between 5 and 9 responses

this criterion. Jurisdictions with between 5 and 9 responses have been noted in subsequent tables to indicate that results for these jurisdictions are likely not as robust as those for jurisdictions with 10 or more responses.

A little over half of respondents (51 percent) to the permit-time component of the *Annual Survey of Mining Companies* were company presidents. A further 29 percent of respondents were either company vice-presidents or managers (figure 16). In addition, 67 percent of respondents represented exploration companies. An additional 18 percent of responses came from producer companies that are also involved in exploration activities (figure 17).

Results

The results of the survey have been broken into five areas: the length of time it takes to be approved for the necessary permits, changes over time, the transparency, certainty, and confidence of the permitting process. Jurisdictions with less than five responses were dropped from the analysis and those with between five and nine responses have been noted in all the subsequent tables.

Figure 16: The Position Permit Times Sub-Survey Respondents Hold in Their Company, 2021

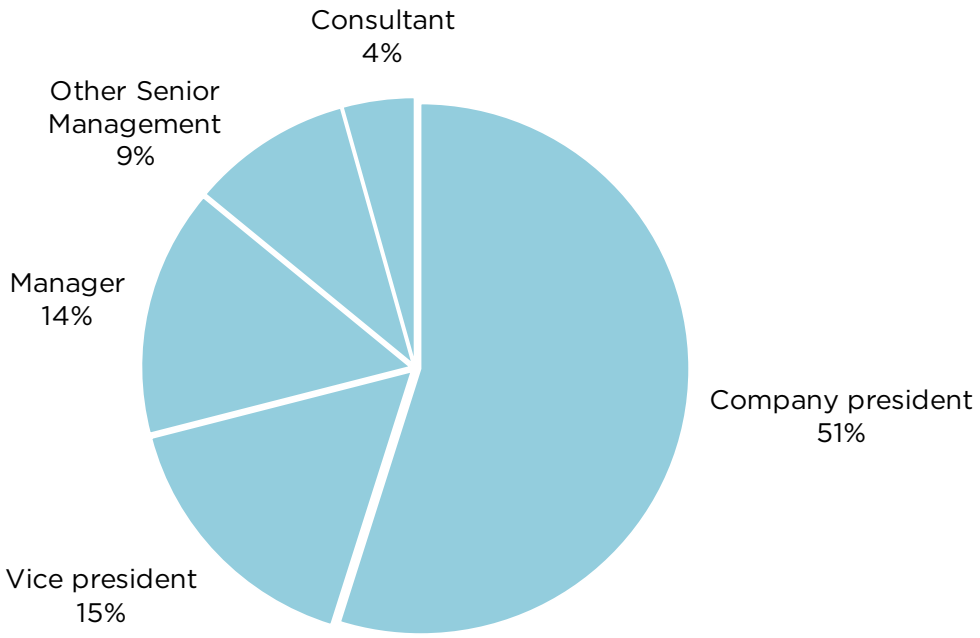
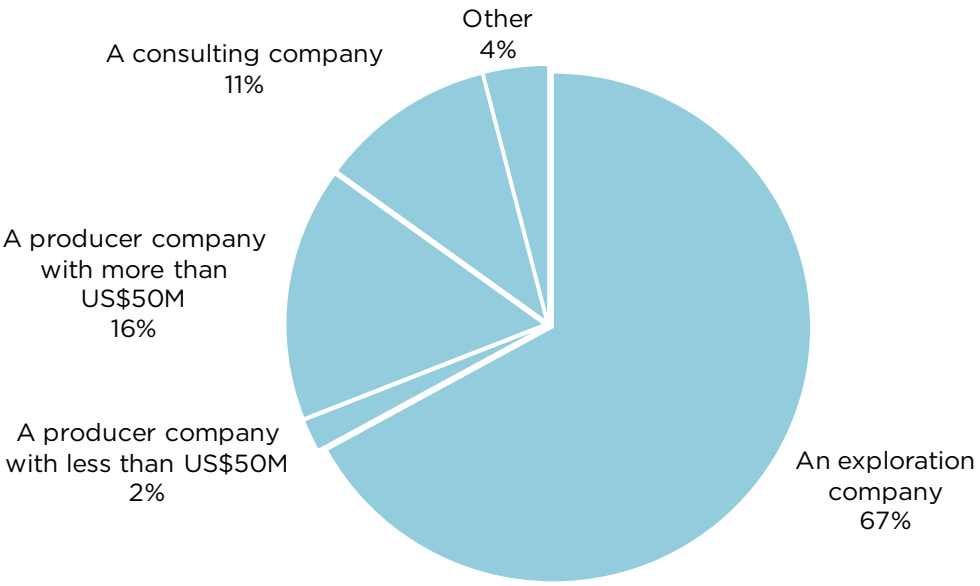


Figure 17: Company Focus as Indicated by Permit Times Sub-Survey Respondents, 2021



Time

Length of time to receive permits

To assess how the length of the permitting process differs among jurisdictions, we asked three questions. Question 1 asked respondents to estimate the amount of time that they expected to spend acquiring the necessary permits to conduct exploration activities. Note that these are not permits to develop a mine, but rather permits to explore. In most Canadian provinces and territories, the majority of respondents said they were able to acquire the necessary exploration permits within six months. However, there are some notable differences among the provinces and territories (table 5).

Table 5: Amount of Time Respondents Expected to Spend Getting the Permits, Licences, Notices of Work, etc. to Conduct Exploration Activities

	2 months or less	3 to 6 months	7 to 10 months	11 to 14 months	15 to 18 months	19 to 23 months	24 months or more
British Columbia	18%	39%	21%	14%	0%	0%	7%
Manitoba	33%	8%	8%	8%	0%	0%	42%
Newfoundland & Labrador*	50%	33%	17%	0%	0%	0%	0%
Northwest Territories*	0%	33%	17%	17%	0%	0%	33%
Nunavut*	14%	43%	14%	29%	0%	0%	0%
Ontario	33%	50%	6%	11%	0%	0%	0%
Quebec	60%	20%	7%	0%	0%	7%	7%
Saskatchewan	13%	56%	19%	13%	0%	0%	0%
Yukon	20%	40%	20%	0%	0%	7%	13%
Alaska*	40%	20%	20%	10%	0%	0%	10%
Arizona*	14%	43%	29%	0%	0%	0%	14%
Idaho*	17%	33%	17%	0%	33%	0%	0%
Nevada	36%	36%	21%	0%	7%	0%	0%
New South Wales	11%	28%	39%	6%	6%	6%	6%
Northern Territory*	22%	44%	0%	22%	11%	0%	0%
Queensland	8%	15%	46%	15%	0%	15%	0%
South Australia*	33%	17%	17%	17%	0%	17%	0%
Western Australia	50%	41%	5%	0%	5%	0%	0%
Finland*	0%	40%	0%	20%	20%	0%	20%
Sweden*	20%	40%	0%	20%	0%	0%	20%

*Between 5 and 9 responses

Canada

For two years in a row, Quebec has performed particularly well in terms of the amount of time it takes to acquire necessary permits for exploration activities. Sixty percent of respondents indicated that they were able to acquire the necessary permits for exploration in two months or less—the highest percentage for that time period for any jurisdiction in this sub-survey. The Northwest Territories, on the other hand, was the only Canadian jurisdiction in which no respondent indicated that they were able to acquire the necessary permits for exploration in two months or less. The pan-Canadian average for this measure is 27 percent.

The Yukon, where 60 percent of respondents indicated that they received their necessary permits in less than six months, performs slightly better than Nunavut, where 57 percent indicated that this was the case. It is important to note that 42 percent of respondents for Manitoba said it took 24 months or more to get their exploration permits—the highest percentage for that time period for all surveyed jurisdictions.

Overall, provinces like Quebec and Ontario, which attract exploration investment for similar types of commodities, outperform most provinces and territories territories on permit times. For instance, 83 percent of respondents for Ontario and 80 percent for Quebec acquired the necessary permits for exploration in six months or less. The best performers in this category were Ontario and Newfoundland & Labrador where 83 percent of respondents were able to secure permits in six months or less.

The results are somewhat mixed among the three provinces—British Columbia, Ontario, and Quebec—that attract the majority of Canadian exploration spending on base metals and precious metals. For example, Quebec (60 percent) and Ontario (33 percent) had higher percentages of respondents indicating that they expected it would take two months or less to acquire the necessary exploration permits. However, in British Columbia, only 18 percent of respondents were able to acquire the necessary permits for exploration in two months or less; on longer time frames to acquire permits, British Columbia also underperforms its other two competitors in Canada; among the three provinces, BC has the lowest percentage of respondents (57 percent) indicating that they expected to spend six months or less acquiring the necessary permits. In fact, 43 percent of respondents for British Columbia indicated that they expected to spend more than 6 months to get their exploration permits whereas just 17 and 20 percent of respondents for Quebec and Ontario, respectively, thought their permit times would run to 6 months or more.

United States

Of the four jurisdictions in the United States with sufficient responses, Nevada has the lowest percentage of respondents (29 percent) who indicated they were able to attain their necessary permits in more than six months. On the other hand, this year half of respondents for Idaho, which last year ranked as the most attractive jurisdiction in the world when considering policy alone, claimed that it took more than six months to obtain the required permits.

Australia

Half of respondents for Western Australia claimed that they were able to receive their exploration permits in less than two months. In contrast, only 8 percent of respondents for Queensland indicated they received their permits in the same period of time. In fact, 77 percent of respondents for Queensland claimed they couldn't get their exploration permits in 6 months or less—the highest proportion indicating that was the case for all jurisdictions in this analysis. On the other hand, only 9 percent of respondents for Western Australia indicated that it took 6 months or more for them to receive their permits—the lowest percentage for all surveyed jurisdictions.

Scandinavia

Sweden performs particularly well on this measure given that 60 percent of respondents indicated they were able to secure their exploration permit within 6 months or less – 20 percent more than the share of responses for Finland. It is worth noting that 20 percent of respondents for both jurisdictions waited 24 months or more to obtain their permits.

Overall

When comparing the four regions included in the survey—Canada, the United States, Australia, and Scandinavia—Canadian jurisdictions have, on average, a higher percentage of respondents indicating that it took six months or less for them to receive their permits. This average was 63 percent amongst Canadian jurisdictions, 60 percent amongst US jurisdictions, 54 percent amongst Australian jurisdictions, and 50 percent for the two Scandinavian jurisdictions.

Changes over time

We also sought to assess how the times explorers expected to spend attaining permit approval had changed over the last 10 years.

Canada

The results generally indicate that permit approval times are getting worse in Canada. For seven out of the nine provinces and territories included in the survey (British Columbia, Manitoba, Newfoundland & Labrador, the Northwest Territories, Ontario, Saskatchewan, and the Yukon), 67 percent or more of respondents said that the time to permit approval had lengthened somewhat or considerably over the last 10 years (table 6). In particular, 87 percent of respondents for the Yukon and 83 percent for Manitoba claimed that the time to permit approval had lengthened somewhat or considerably over the past 10 years.

Table 6: Changes in the Time to Permit Approval Over the Last 10 Years

	Shortened Considerably	Shortened Somewhat	Stayed the Same	Lengthened Somewhat	Lengthened Considerably
British Columbia	11%	0%	15%	37%	37%
Manitoba	0%	8%	8%	42%	42%
Newfoundland & Labrador*	0%	0%	33%	33%	33%
Northwest Territories*	0%	17%	17%	33%	33%
Nunavut*	0%	0%	57%	14%	29%
Ontario	0%	11%	21%	58%	11%
Quebec	7%	33%	33%	13%	13%
Saskatchewan	0%	6%	25%	19%	50%
Yukon	0%	7%	7%	40%	47%
Alaska*	0%	0%	67%	22%	11%
Arizona*	14%	14%	14%	43%	14%
Idaho*	0%	14%	71%	14%	0%
Nevada	0%	7%	60%	27%	7%
New South Wales	6%	39%	11%	22%	22%
Northern Territory*	0%	20%	50%	10%	20%
Queensland	0%	15%	38%	23%	23%
South Australia*	14%	29%	14%	29%	14%
Western Australia	19%	29%	33%	19%	0%
Finland*	0%	0%	60%	20%	20%
Sweden*	0%	0%	40%	20%	40%

*Between 5 and 9 responses

Of the three provinces attracting the bulk of Canada's exploration spending, British Columbia had the highest percentage of respondents (74 percent) indicating that the time to permit approval had either lengthened somewhat or lengthened considerably, compared to 68 percent in Ontario and only 27 percent in Quebec (the best Canadian performer in this category and third in the sub-ranking).

United States

Only 14 percent of respondents for Idaho indicated that the time to obtain an approved permit had lengthened somewhat or considerably over the last 10 years—the lowest percentage for all surveyed jurisdictions. In contrast, 57 percent of respondents for Arizona claimed that permit approval times are getting worse in the state.

Australia

In three of the Australian jurisdictions included in this survey (New South Wales, Queensland, and South Australia) 43 percent or more of respondents indicated that the time it took to receive their permit approvals had either lengthened somewhat or considerably. Western Australia continues to be the best performer in the country on this measure, with only 19 percent of respondents indicating that the time to permit approval had lengthened in some way while Queensland was the worst performer: 46 percent said permit approval times had worsened in that state. In fact, Queensland also had the highest percentage of respondents (23 percent) of all Australian jurisdictions included in this analysis who indicated that the time to permit approval had lengthened considerably.

Scandinavia

No respondents for Finland and Sweden claimed that the permit approval process has shortened in the last decade. In fact, 60 percent of respondents for Sweden indicated that the time to permit approval has lengthened somewhat or considerably, while the share of respondents claiming lengthened permit times for Finland was 40 percent.

Overall

Overall, Canada is performing poorly relative to other regions for the lengthening of permit approval times over time. An average of 65 percent of respondents for the Canadian jurisdictions indicated that the time to permit approval had either lengthened somewhat or considerably over the past 10 years, compared to 50 percent in Scandinavia, 37 percent in Australia, and 35 percent in the United States.

Timeline Certainty

It is also important to those applying for exploration permits that the permit-granting organizations adhere to advertised timelines. If the organizations do not meet the expected milestones and thereby

extend the time it takes to get a permit, this can place additional costs and risks on firms and act as a deterrent to investment (table 7).

Canada

In Canada, Manitoba (75 percent), the Yukon (73 percent), and Nunavut (71 percent) had the highest percentages of respondents indicating that the permitting authority met its own established timelines or milestones only about half the time or less. Quebec and Ontario were the top performers in the country for timeline certainty, with 40 percent of respondents for Quebec and a third of respondents

Table 7: How Often Did the Jurisdiction Meet its Own Established Timelines/Milestones for Permit Approval Decisions?

	Most of the time (80 to 100%)	Some of the time (60 to 80%)	About half the time (40 to 60%)	Less than half the time (20 to 40%)	Rarely met own timelines (0 to 20%)
British Columbia	25%	18%	29%	11%	18%
Manitoba	8%	17%	17%	8%	50%
Newfoundland & Labrador*	17%	50%	17%	17%	0%
Northwest Territories*	17%	17%	33%	0%	33%
Nunavut*	14%	14%	29%	29%	14%
Ontario	33%	17%	50%	0%	0%
Quebec	40%	33%	7%	7%	13%
Saskatchewan	31%	19%	31%	13%	6%
Yukon	13%	13%	40%	13%	20%
Alaska*	70%	10%	10%	10%	0%
Arizona*	29%	29%	14%	0%	29%
Idaho*	43%	29%	14%	14%	0%
Nevada	53%	27%	13%	0%	7%
New South Wales	11%	28%	17%	28%	17%
Northern Territory*	33%	33%	11%	11%	11%
Queensland	15%	46%	15%	15%	8%
South Australia*	33%	50%	0%	0%	17%
Western Australia	62%	24%	5%	0%	10%
Finland*	0%	60%	20%	20%	0%
Sweden*	20%	20%	20%	20%	20%

*Between 5 and 9 responses

for Ontario claiming that the permitting authority met its own established timelines between 80 and 100 percent of the time.

United States

Seventy percent of respondents for Alaska indicated that timelines for permit-approval decisions were met between 80 to 100 percent of the time—the highest share for all surveyed jurisdictions. Arizona, on the other hand, had the highest percentage of US respondents (43 percent) claiming that the permitting authority met its own timelines about half the time or less.

Australia

Western Australia was the best performing state in Australia, and second in the sub-survey, when it comes to meeting established timelines: 62 percent of respondents indicated that the permitting authority met its own established timelines or milestones between 80 and 100 percent of the time. In addition, the state had the lowest percentage of respondents (14 percent) among all the jurisdictions in the sub-survey indicating that the permitting authority met its own timelines about half the time or less.

Similarly, at 17 percent, South Australia had the second lowest percentage of respondents claiming that the regulatory authority met its own timelines about half the time or less.

This is in stark comparison to New South Wales, where 61 percent of respondents indicated established timelines were met only about half the time or less.

Scandinavia

No respondents for Finland indicated that the jurisdictions met its own established timelines for a permit approval decision between 80 and 100 percent of the time—the lowest share for all jurisdictions in this analysis. In addition, 60 percent of respondents for Sweden claimed that timelines for permit-approval decisions were met half the time or less.

Overall

Overall, Canada performs poorly relative to other regions for timeline certainty. The average percentage of respondents in Canadian provinces indicating that established timelines for approval decisions were met half of the time or less was 56 percent, compared to 50 percent in Scandinavia, 33 percent in Australia, and 28 percent in the United States.

Transparency

Another critical issue in the granting of exploration permits is transparency. When those prospecting for exploitable mineral deposits do not understand what the rules are or how they are applied, political interference and even corruption can enter the process, with the result that investment may be deterred (table 8).

Canada

In this area, Newfoundland & Labrador performs better than the rest of the other Canadian provinces and territories included in the sub-survey. Only 17 percent of respondents for Newfoundland & Labrador reported that a lack of transparency in the permitting process was a deterrent to investment.

The territories have a high share of respondents indicating that a lack of transparency was a deterrent to investment with the notable exception of the Northwest Territories where only 20 percent of respondents claimed lack of transparency deters investment. For instance, 71 percent of respondents for Nunavut and 67 percent for the Yukon claimed the level of transparency in the permitting process was a key deterrent for investment.

Amongst the three provinces that attract the majority of Canadian exploration spending, Quebec performed the best with 20 percent of the respondents indicating that a lack of transparency in the permitting process was a deterrent to investment, followed by Ontario at 37 percent, and British Columbia at 39 percent. The worst performer in this category was once again Manitoba where 83 percent of respondents cited the absence of transparency as a deterrent to investment—the highest share of all jurisdictions in this analysis.

United States

This year, no respondents for Idaho stated that a lack of transparency was deterring investment, which makes that state the top performer overall for all jurisdictions on this measure. The next best performers on this measure were Alaska and Nevada, for which 20 percent of respondents indicated that a lack of transparency in the exploration permitting process was a deterrent to investment.

Australia

Western Australia, the most attractive jurisdiction worldwide for mining investment, had only 5 percent of respondents claiming that the level of transparency in the state was a deterrent to investment; it was second best performer overall on this measure after Idaho. In contrast, New South Wales and the Northern Territory saw 39 percent and 30 percent of respondents, respectively, claiming the level of transparency in those states was a key deterrent to investment.

Table 8: How Does the Level of Transparency in the Permitting Process Affect Exploration Investment?

	Encourages exploration investment	Not a deterrent to exploration investment	Is a mild deterrent to exploration investment	Is a strong deterrent to exploration investment	Would not pursue exploration investment due to this factor
British Columbia	14%	46%	21%	18%	0%
Manitoba	0%	17%	8%	42%	33%
Newfoundland & Labrador*	0%	83%	17%	0%	0%
Northwest Territories*	20%	60%	0%	0%	20%
Nunavut*	14%	14%	29%	43%	0%
Ontario	16%	47%	26%	11%	0%
Quebec	47%	33%	7%	7%	7%
Saskatchewan	19%	44%	25%	13%	0%
Yukon	27%	7%	40%	13%	13%
Alaska*	40%	40%	10%	10%	0%
Arizona*	14%	57%	0%	29%	0%
Idaho*	43%	57%	0%	0%	0%
Nevada	40%	40%	7%	7%	7%
New South Wales	6%	56%	33%	6%	0%
Northern Territory*	20%	50%	10%	10%	10%
Queensland	15%	62%	15%	8%	0%
South Australia*	43%	29%	14%	14%	0%
Western Australia	64%	32%	5%	0%	0%
Finland*	20%	20%	0%	60%	0%
Sweden*	20%	40%	0%	40%	0%

*Between 5 and 9 responses

Scandinavia

Sixty percent of respondents for Finland claimed that the level of transparency in the permitting process is a strong deterrent to investment as did 40 percent for Sweden.

Overall

Canada continues to perform poorly when it comes to transparency in the permitting process. An average of 44 percent of respondents for Canada claimed that a lack of transparency deterred

investment—much higher than the 17 percent for the United States and the 25 percent for Australian jurisdictions. On average, 50 percent of respondents for Scandinavia claimed the level of transparency deterred investment there—the highest for all regions.

Confidence

Another area on which we sought feedback was the confidence of respondents that they would eventually be granted a permit. If firms are not confident that they will be able to acquire the necessary permits to carry out exploration activities once they have met regulatory requirements, it is less likely that they will consider investing in the given jurisdiction (table 9).

Canada

Newfoundland & Labrador was the top Canadian performer in this category—and in the overall ranking on this particular measure—as all respondents were highly confident or confident that they would be granted the necessary permits. Ninety-five percent of respondents for Ontario and 88 percent for Saskatchewan indicated that they were either confident or highly confident that they would receive the necessary permits, compared to only 33 percent for both Manitoba and for the Northwest Territories—the worst performers of all surveyed jurisdictions.

United States

All US states surveyed had a high percentage of positive responses regarding the level of confidence that respondents will eventually be granted the necessary permits with the exception of Arizona, where the share of respondents was 57 percent. In contrast, 90 percent of respondents for Alaska were confident or highly confident that they were going to be granted their permits. Similarly, 87 percent of respondents for Nevada and 86 percent of respondents for Idaho indicated they were sure the permitting authority would eventually grant them the required permits.

Australia

Two Australian jurisdictions—Western Australia and Queensland—performed quite well for confidence in the permitting process, with 100 percent and 93 percent of respondents, respectively, indicating that they were either highly confident or confident that they would receive their permits. New South Wales and the Northern Territory also perform well, with 89 percent and 80 percent of respondents, respectively, indicating that they were confident or highly confident that they would obtain the necessary exploration permits. South Australia is the only Australian jurisdiction with less than 80 percent of respondents responding positively (71 percent).

Scandinavia

Survey respondents expressed relatively low confidence levels for both Scandinavian jurisdictions (60 percent each) that they were sure that the permitting authorities in Finland and Sweden would eventually grant them the required permits.

Overall

When comparing the four regions included in the survey, respondents for the Scandinavian jurisdictions were less confident, on average, that the necessary permits would eventually be granted. This average was 60 percent amongst Scandinavian jurisdictions, 68 percent amongst Canadian provinces and territories, 80 percent for US states, and 87 percent for Australian jurisdictions.

Table 9: Confidence Level of Respondents that They Will Eventually be Granted the Necessary Permit(s)

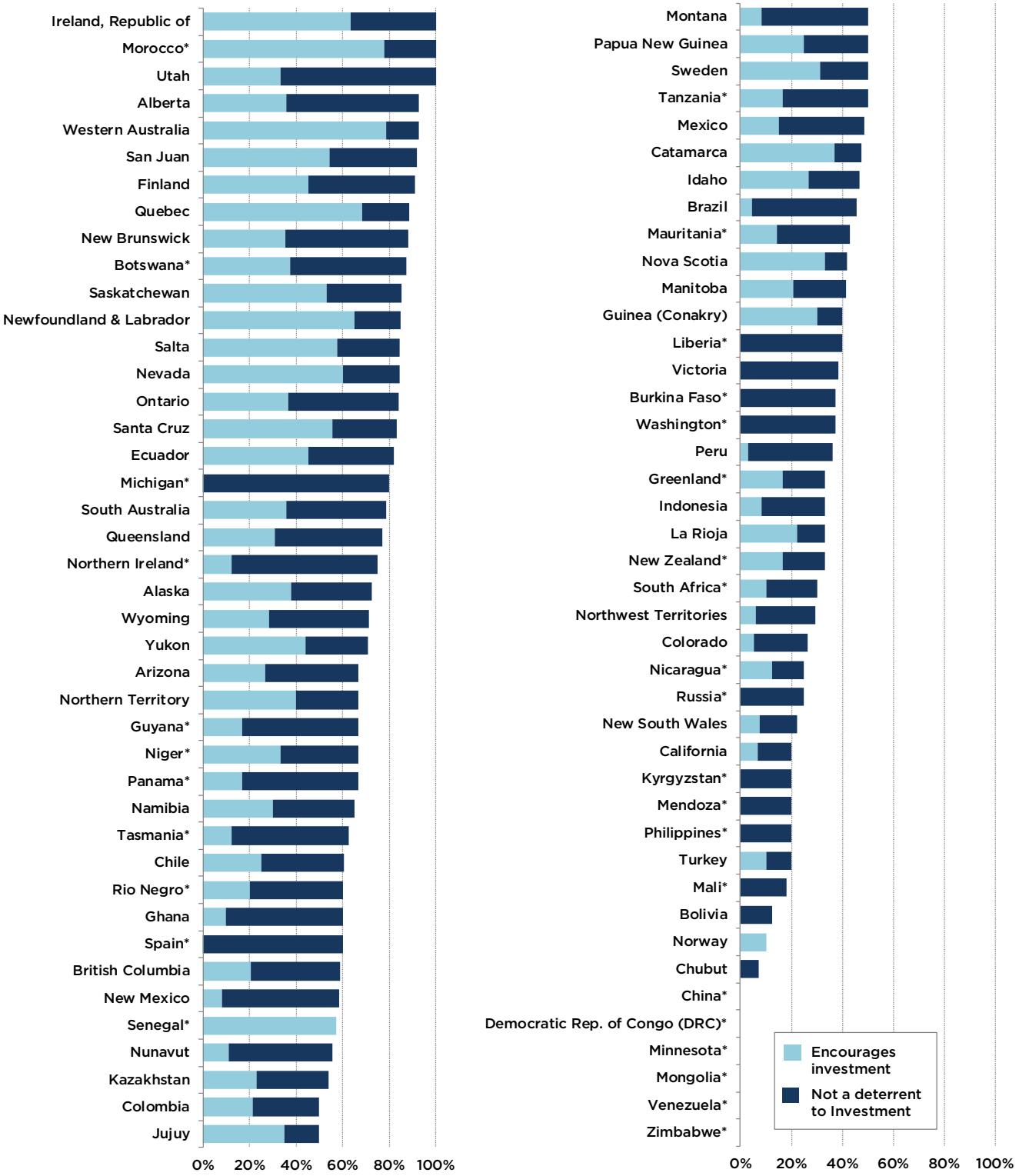
	Not at all Confident	Low Confidence	Confident	High Confidence
British Columbia	11%	7%	50%	32%
Manitoba	33%	33%	33%	0%
Newfoundland & Labrador*	0%	0%	67%	33%
Northwest Territories*	33%	33%	33%	0%
Nunavut*	14%	43%	14%	29%
Ontario	0%	5%	74%	21%
Quebec	13%	7%	20%	60%
Saskatchewan	6%	6%	50%	38%
Yukon	0%	40%	33%	27%
Alaska*	0%	10%	40%	50%
Arizona*	0%	43%	14%	43%
Idaho*	0%	14%	57%	29%
Nevada	7%	7%	40%	47%
New South Wales	6%	6%	56%	33%
Northern Territory*	0%	20%	50%	30%
Queensland	0%	7%	64%	29%
South Australia*	0%	29%	0%	71%
Western Australia	0%	0%	27%	73%
Finland*	0%	40%	40%	20%
Sweden*	0%	40%	40%	20%

*Between 5 and 9 responses

Explanation of the Figures

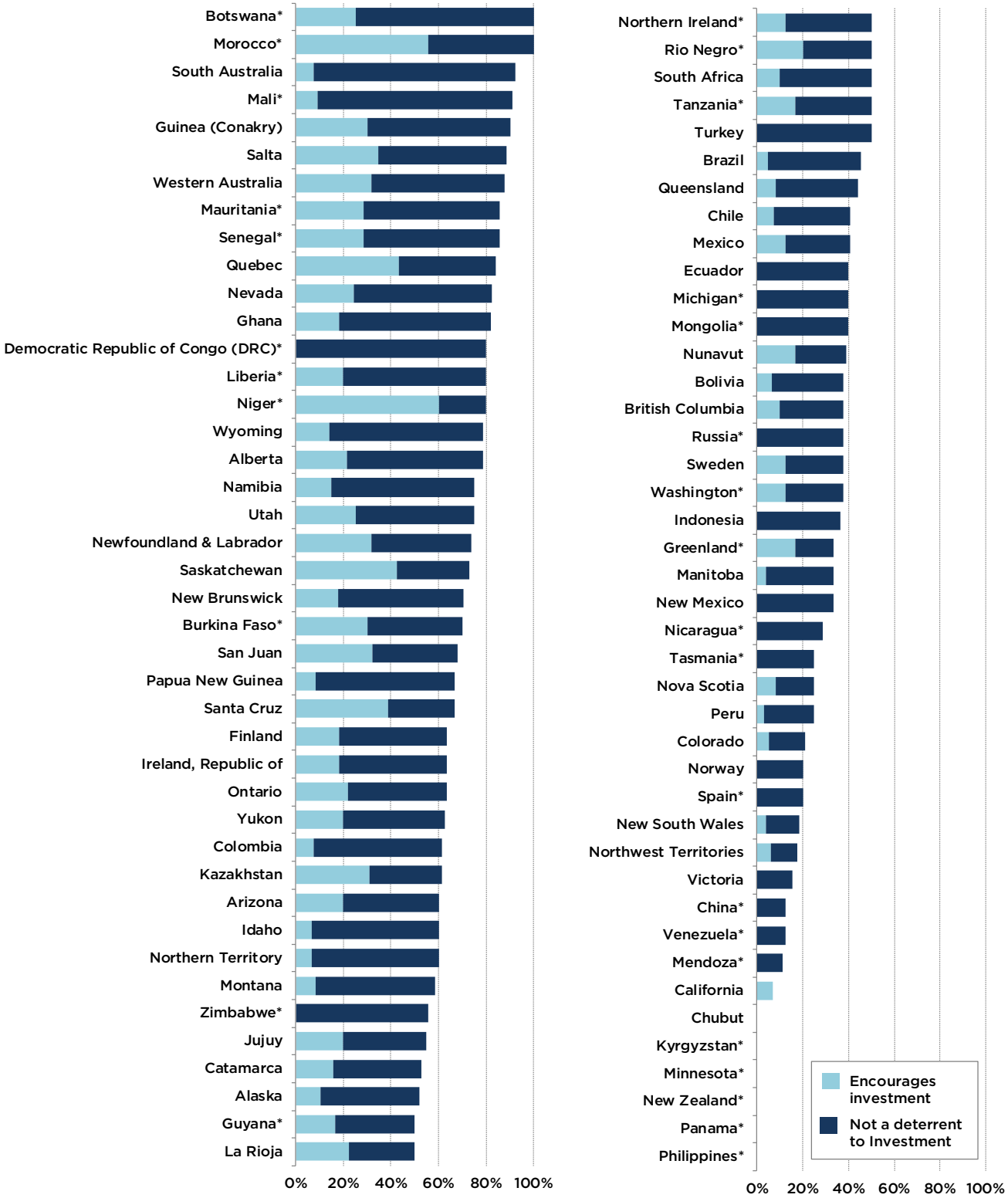
Figures 18 through 32 show the percentage of respondents who rate each policy factor as "encouraging investment" or "not a deterrent to investment: (a "1" or "2" on the scale). Readers will find a breakdown of both negative and positive responses for all areas online at fraserinstitute.org. (Note that any jurisdictions shown with a * received between 5 and 9 responses from survey participants.)

Figure 18: Uncertainty Concerning the Administration, Interpretation and Enforcement of Existing Regulations



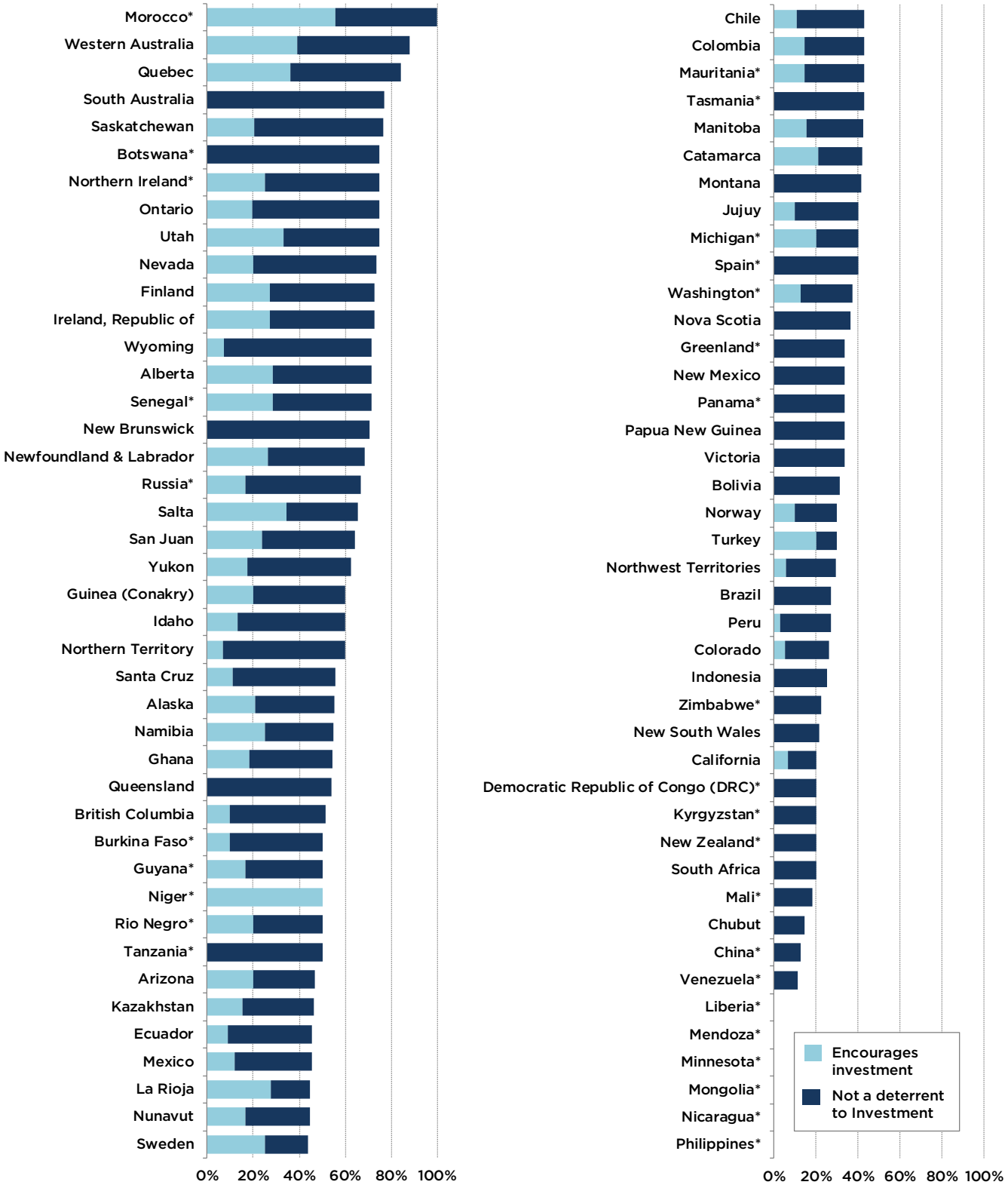
* Between 5 and 9 responses

Figure 19: Uncertainty Concerning Environmental Regulations



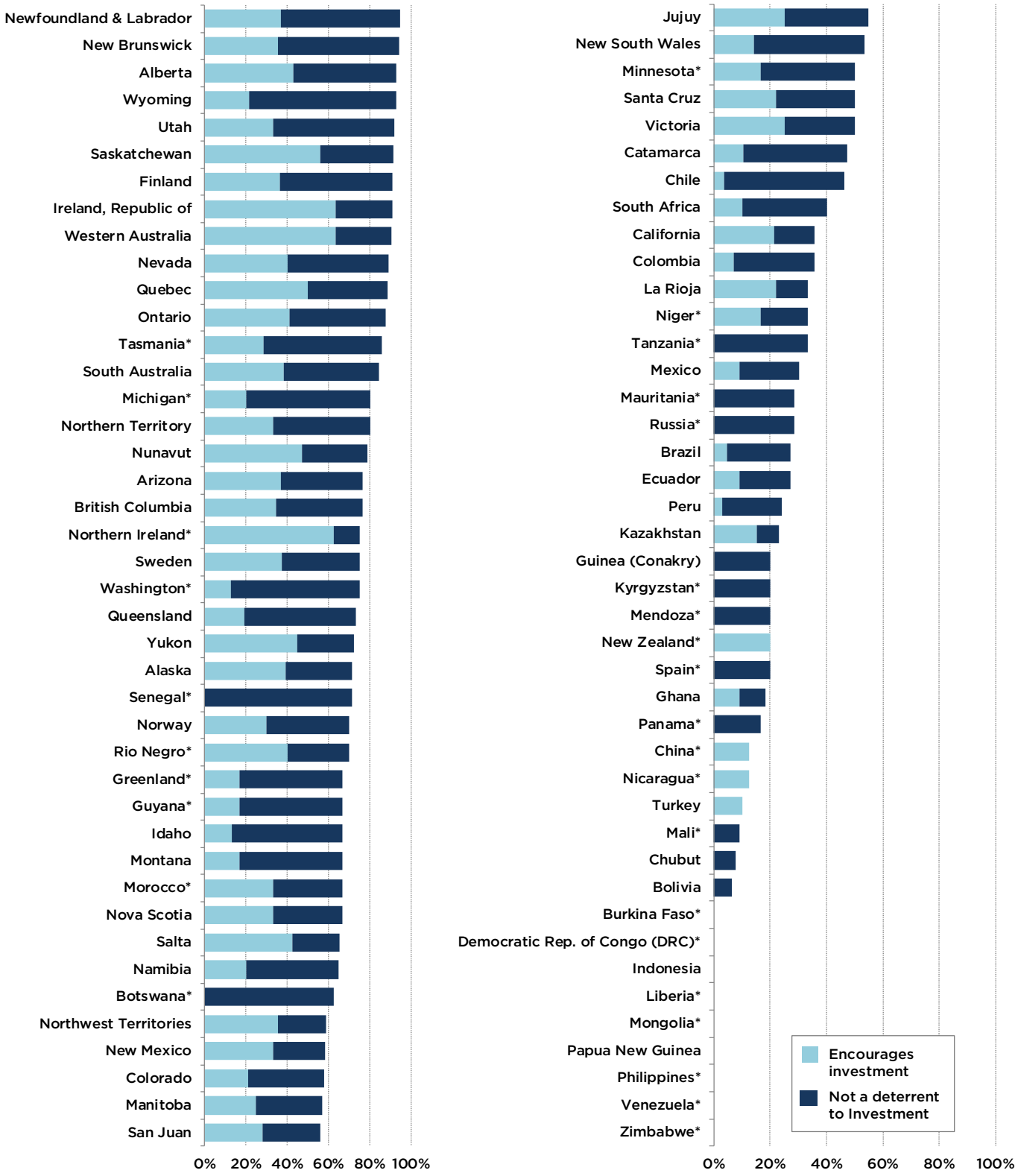
* Between 5 and 9 responses

Figure 20: Regulatory Duplication and Inconsistencies



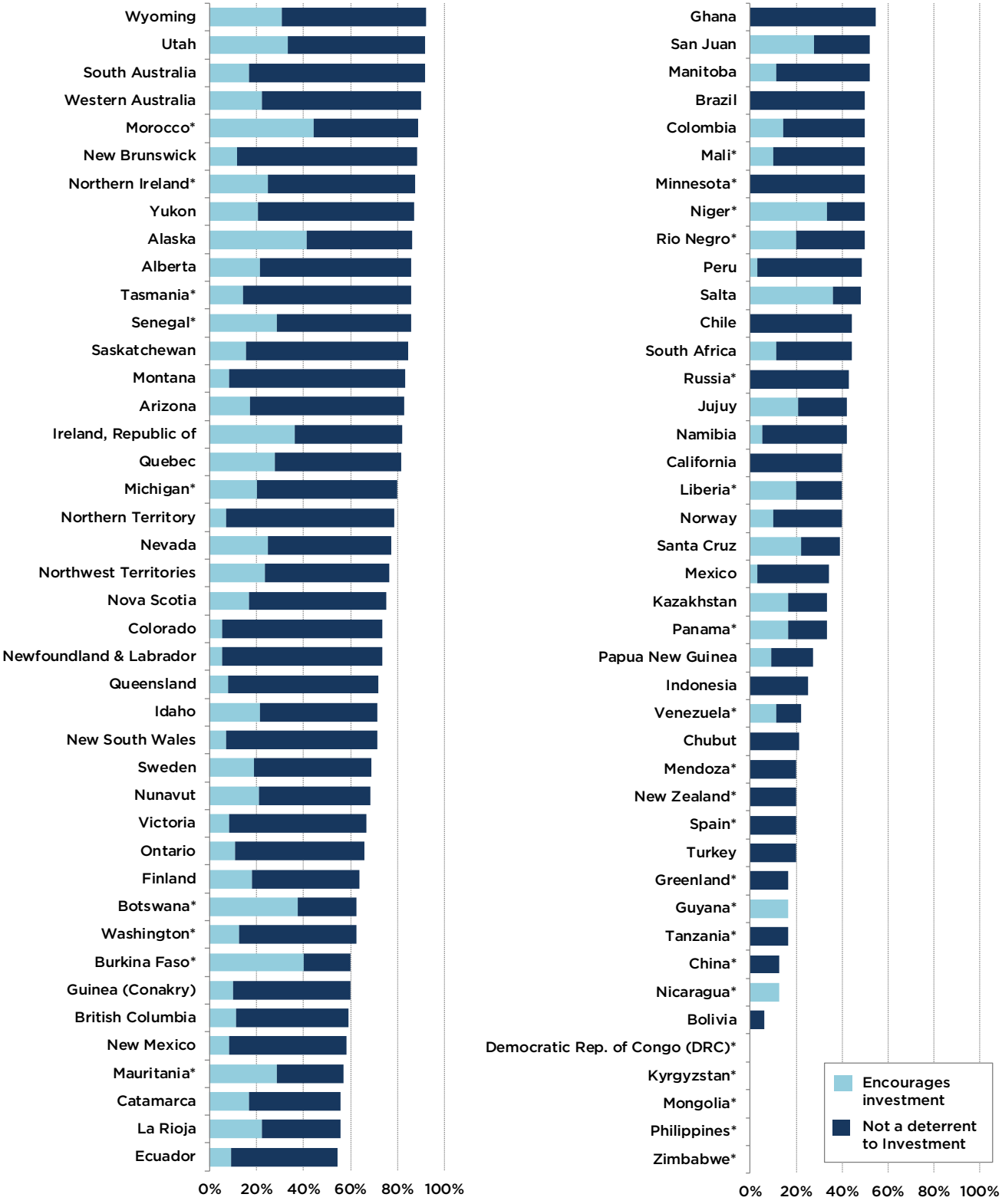
* Between 5 and 9 responses

Figure 21: Legal System



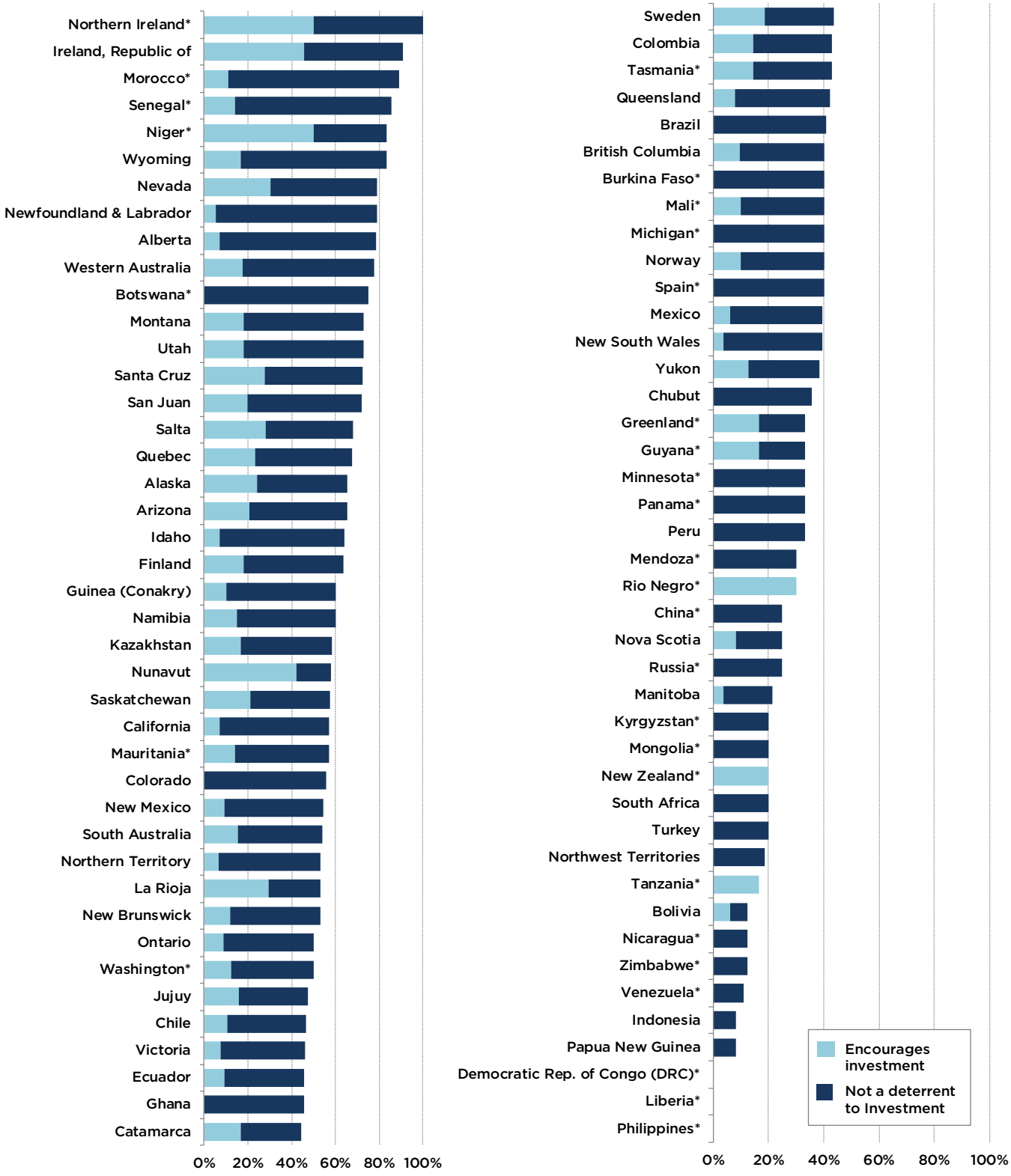
* Between 5 and 9 responses

Figure 22: Taxation Regime



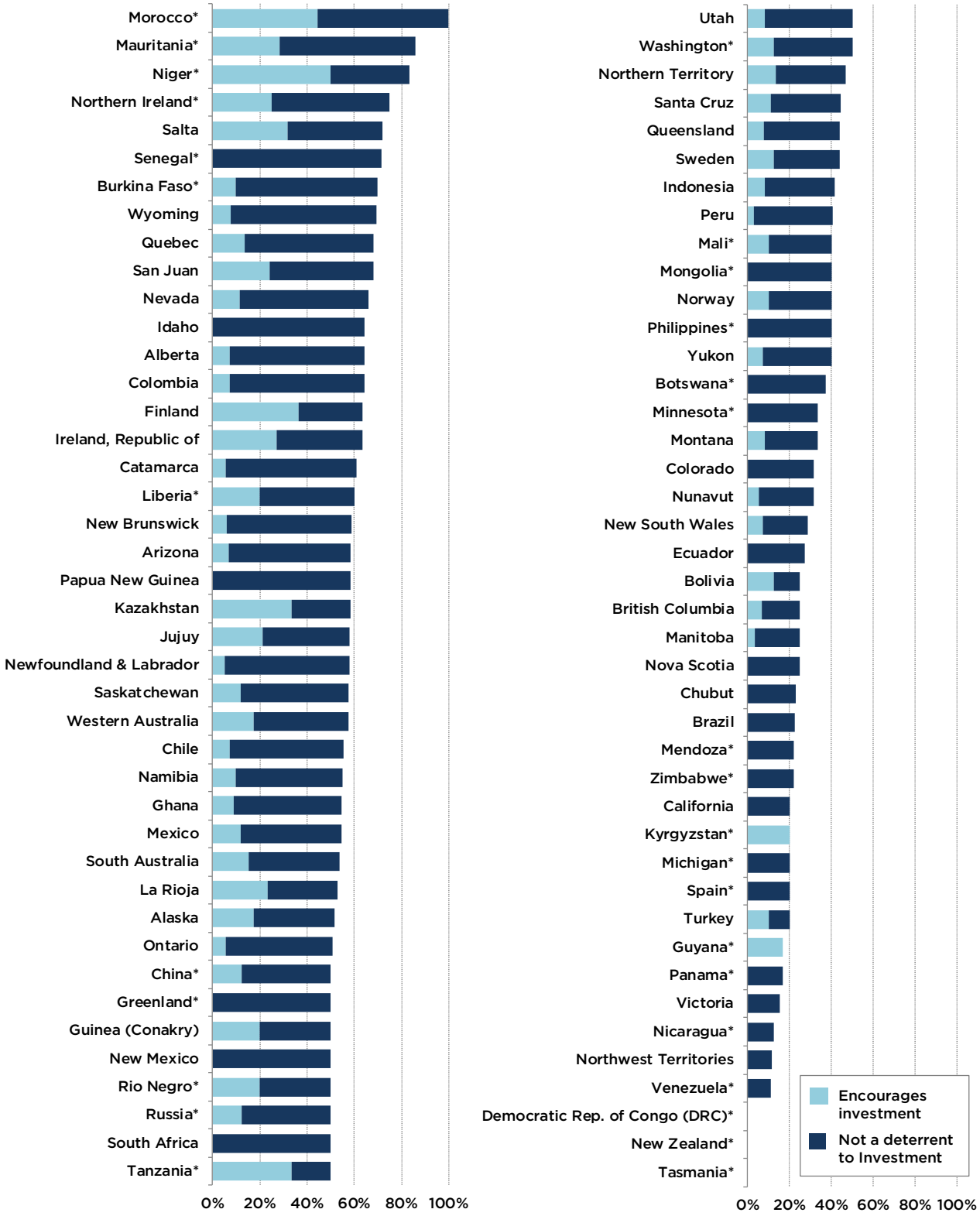
* Between 5 and 9 responses

Figure 23: Uncertainty Concerning Disputed Land Claims



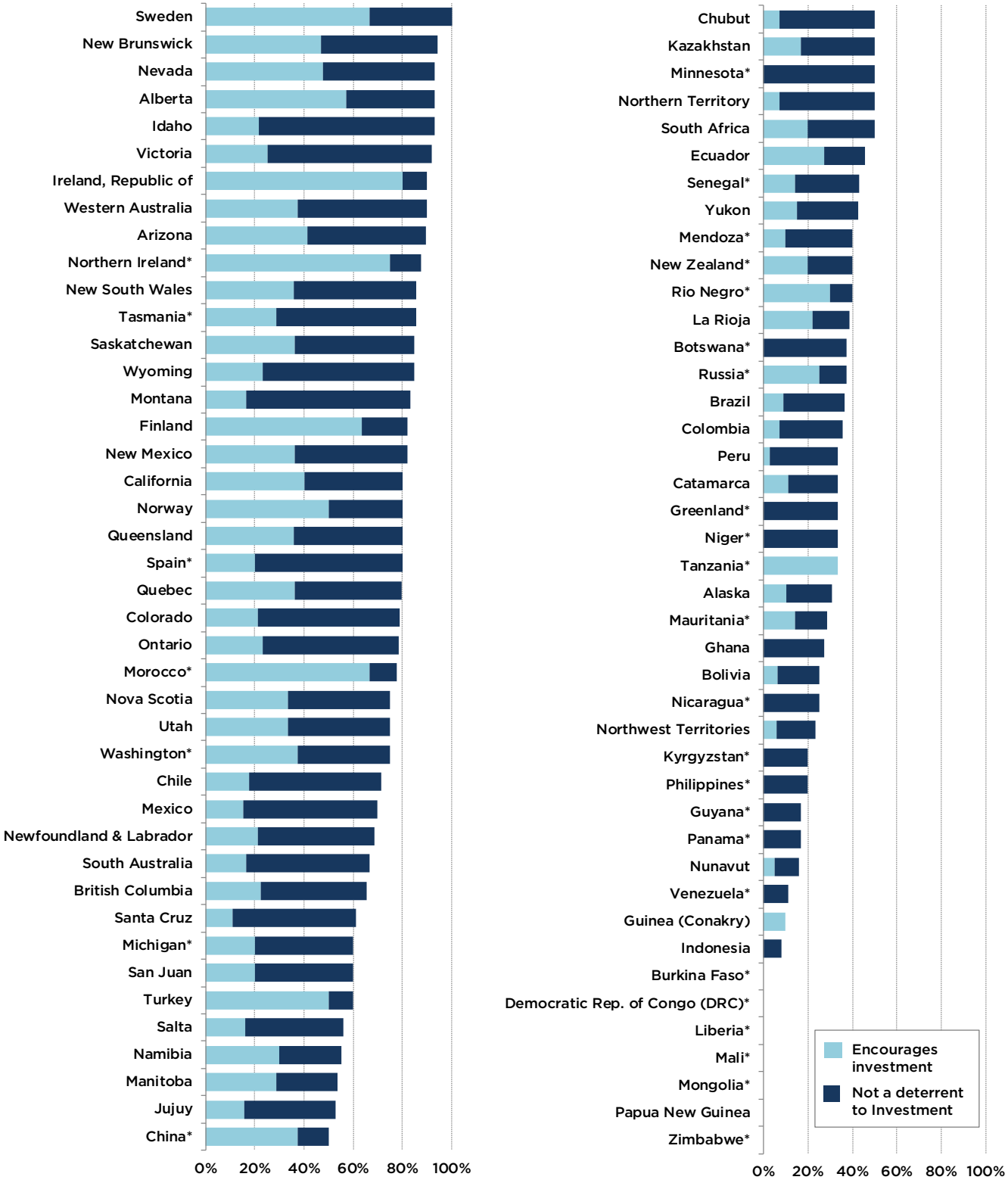
* Between 5 and 9 responses

Figure 24: Uncertainty Concerning Protected Areas



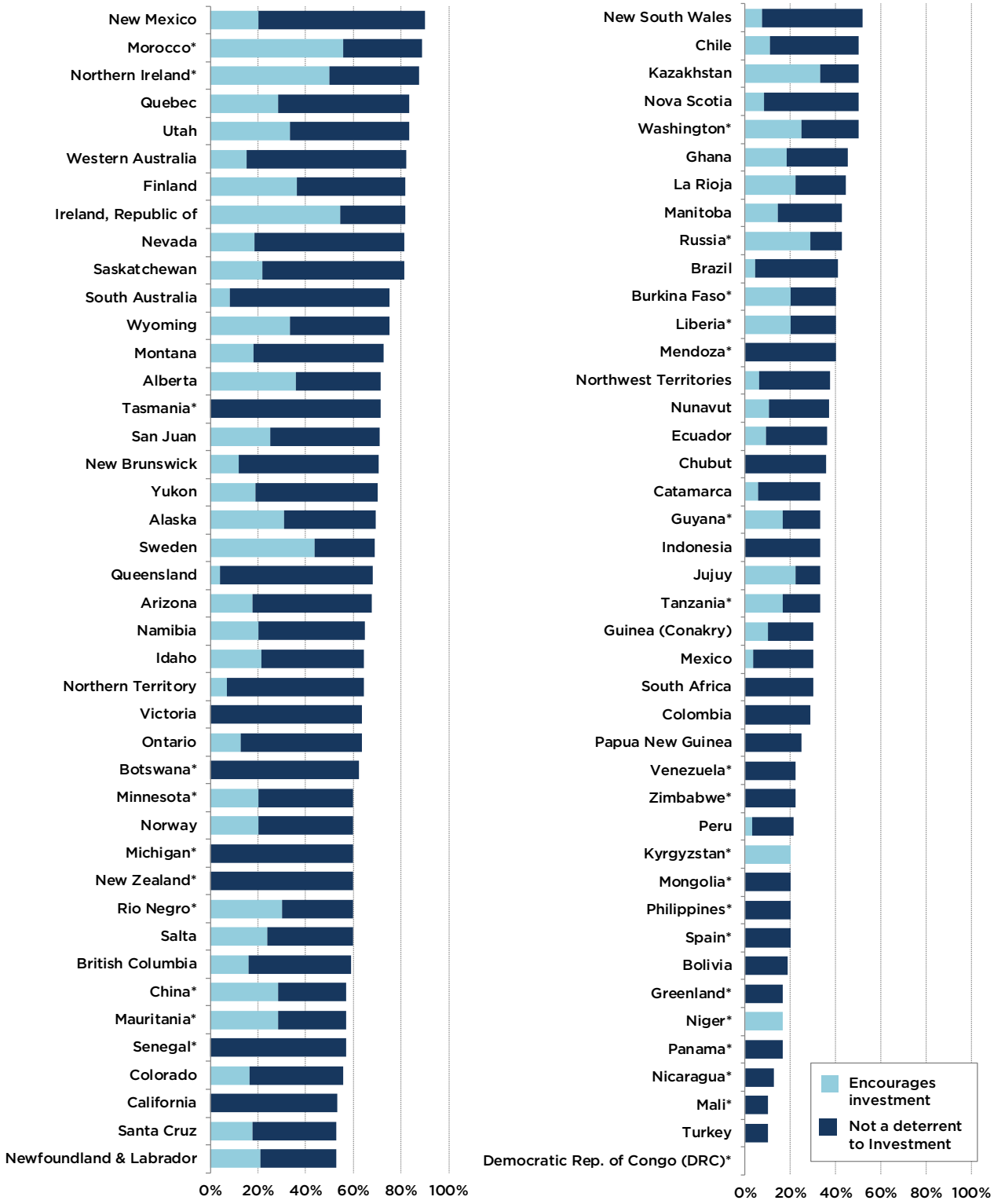
* Between 5 and 9 responses

Figure 25: Quality of Infrastructure



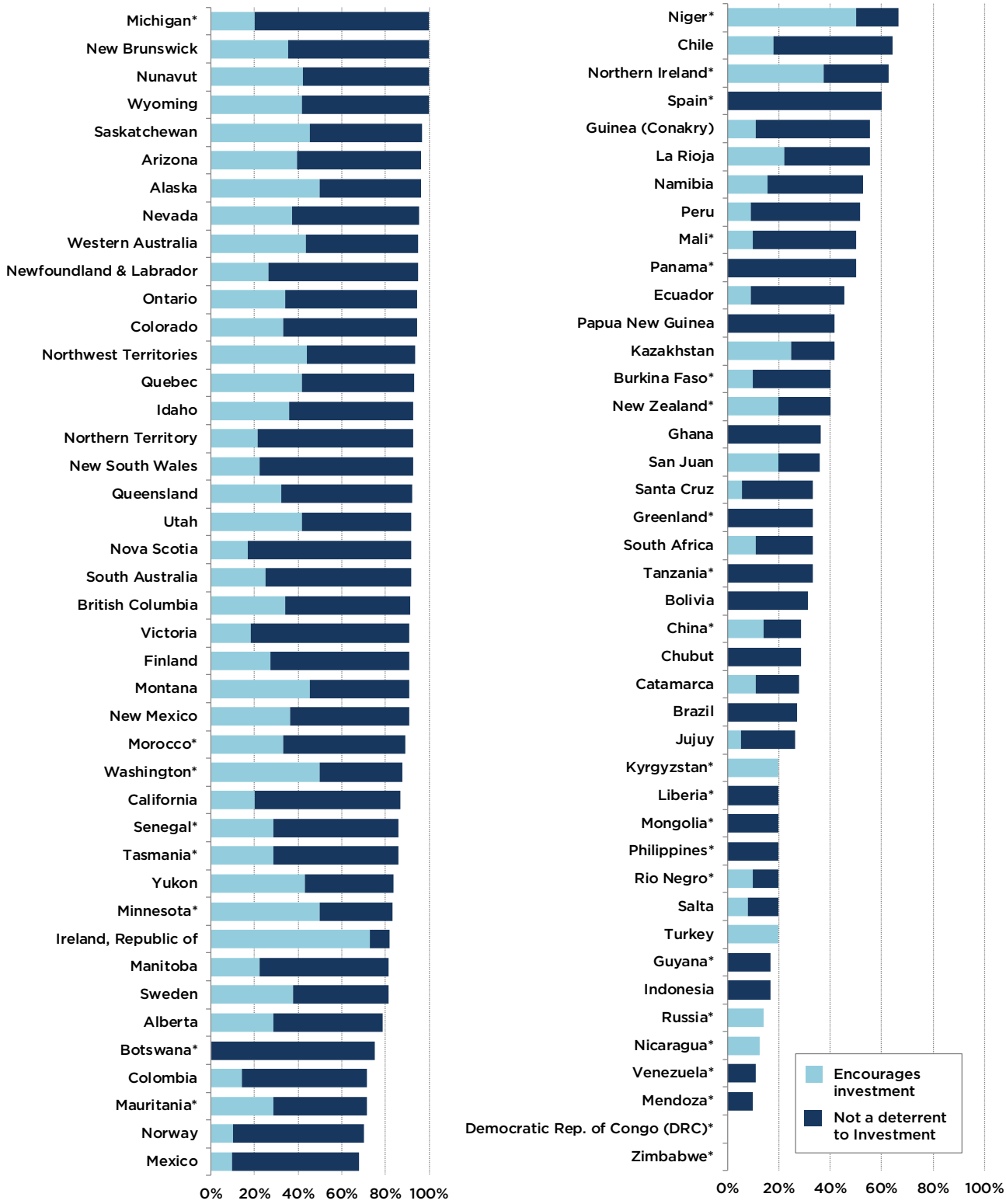
* Between 5 and 9 responses

Figure 26: Socioeconomic Agreements/ Community Development Conditions



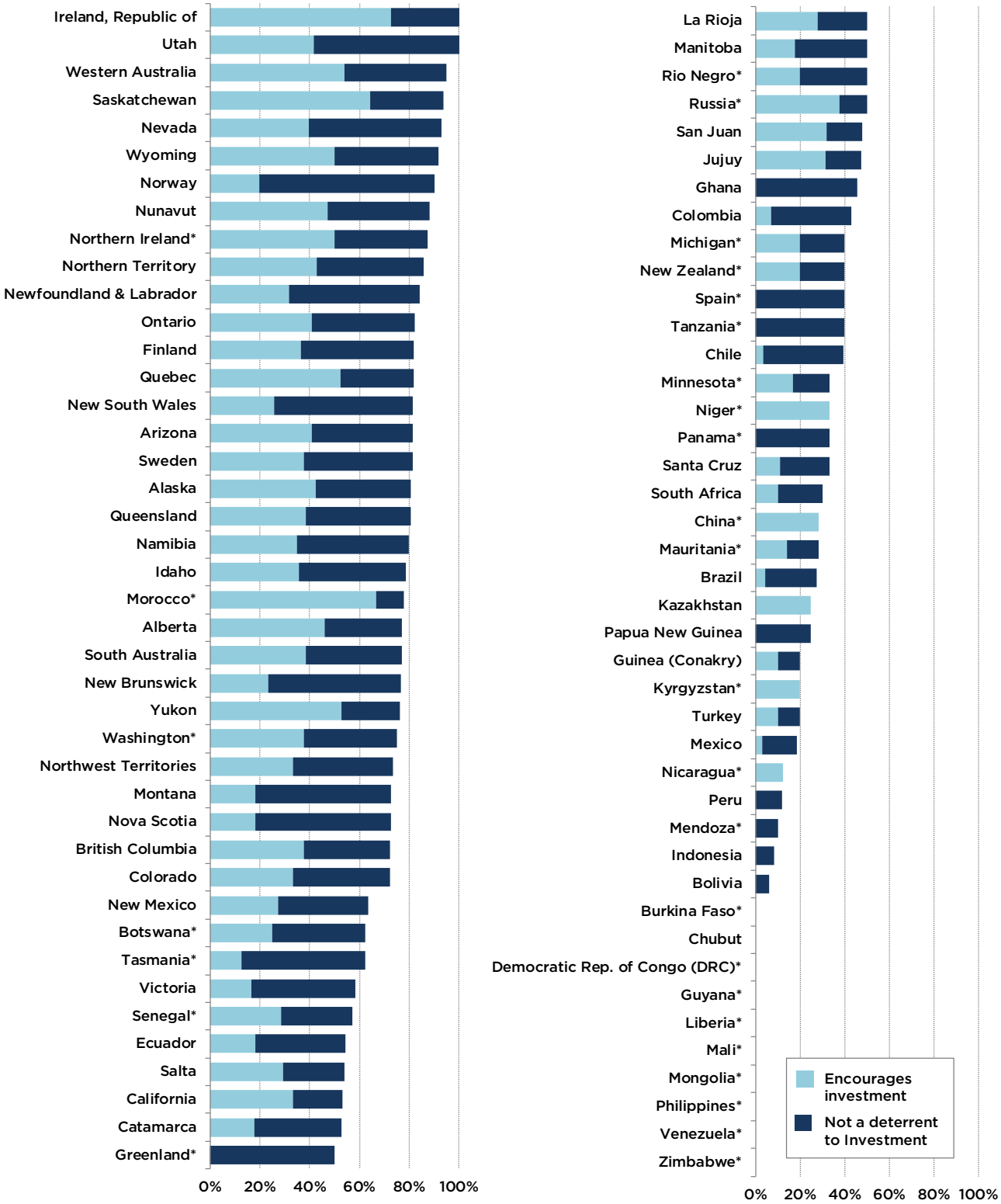
* Between 5 and 9 responses

Figure 27: Trade Barriers



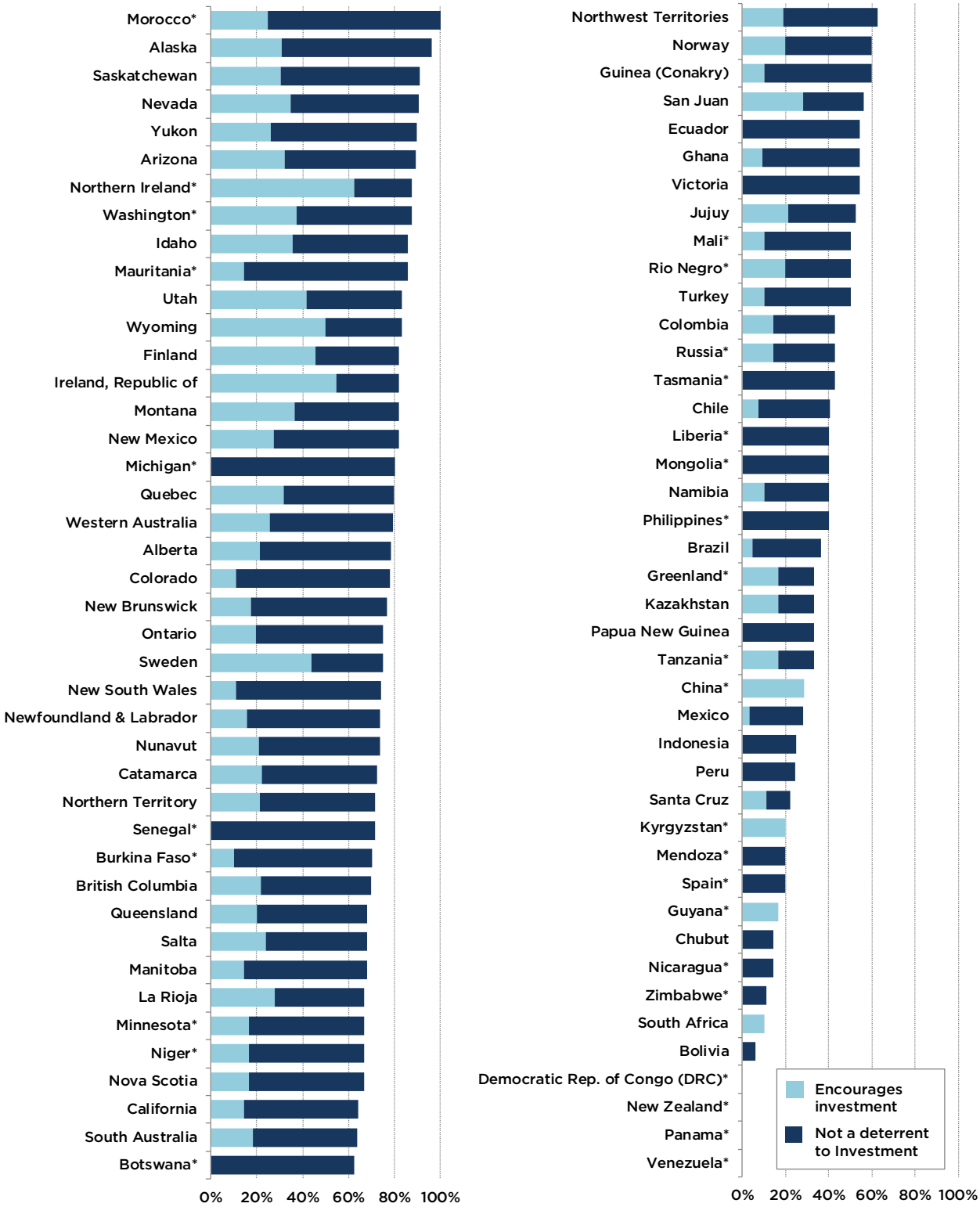
* Between 5 and 9 responses

Figure 28: Political Stability



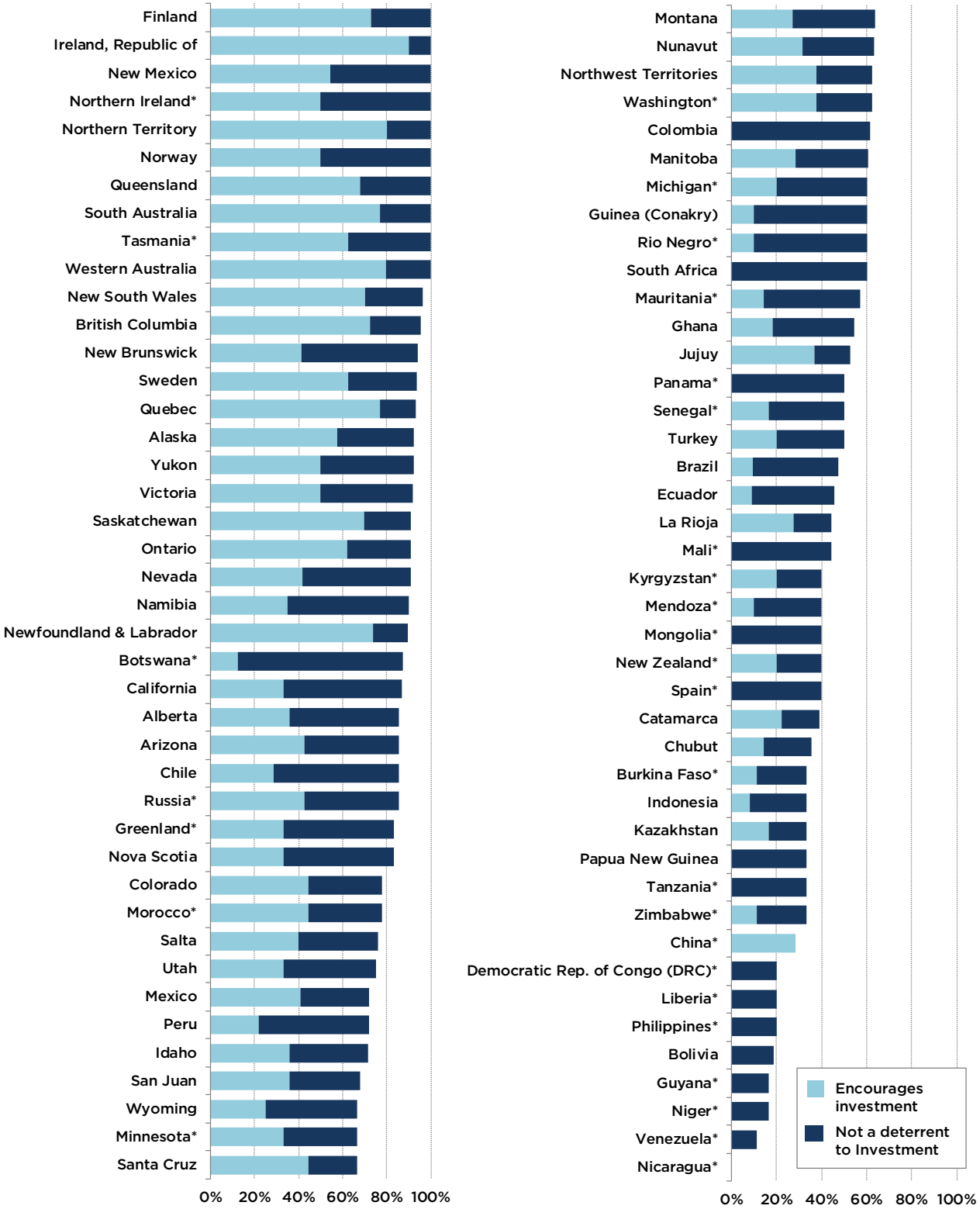
* Between 5 and 9 responses

Figure 29: Labor Regulations/Employment Agreements and Labour Militancy/Work Disruptions



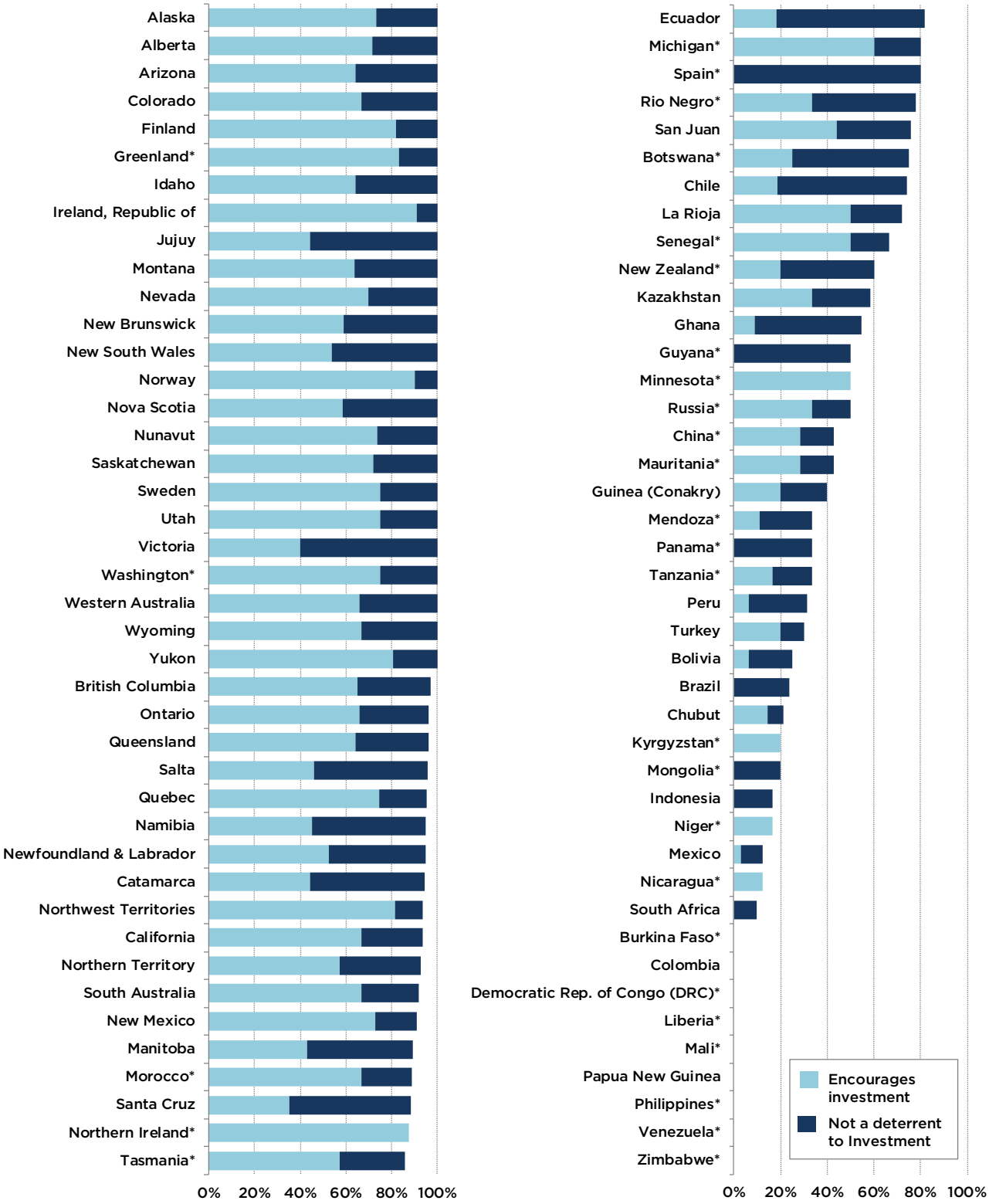
* Between 5 and 9 responses

Figure 30: Geological Database



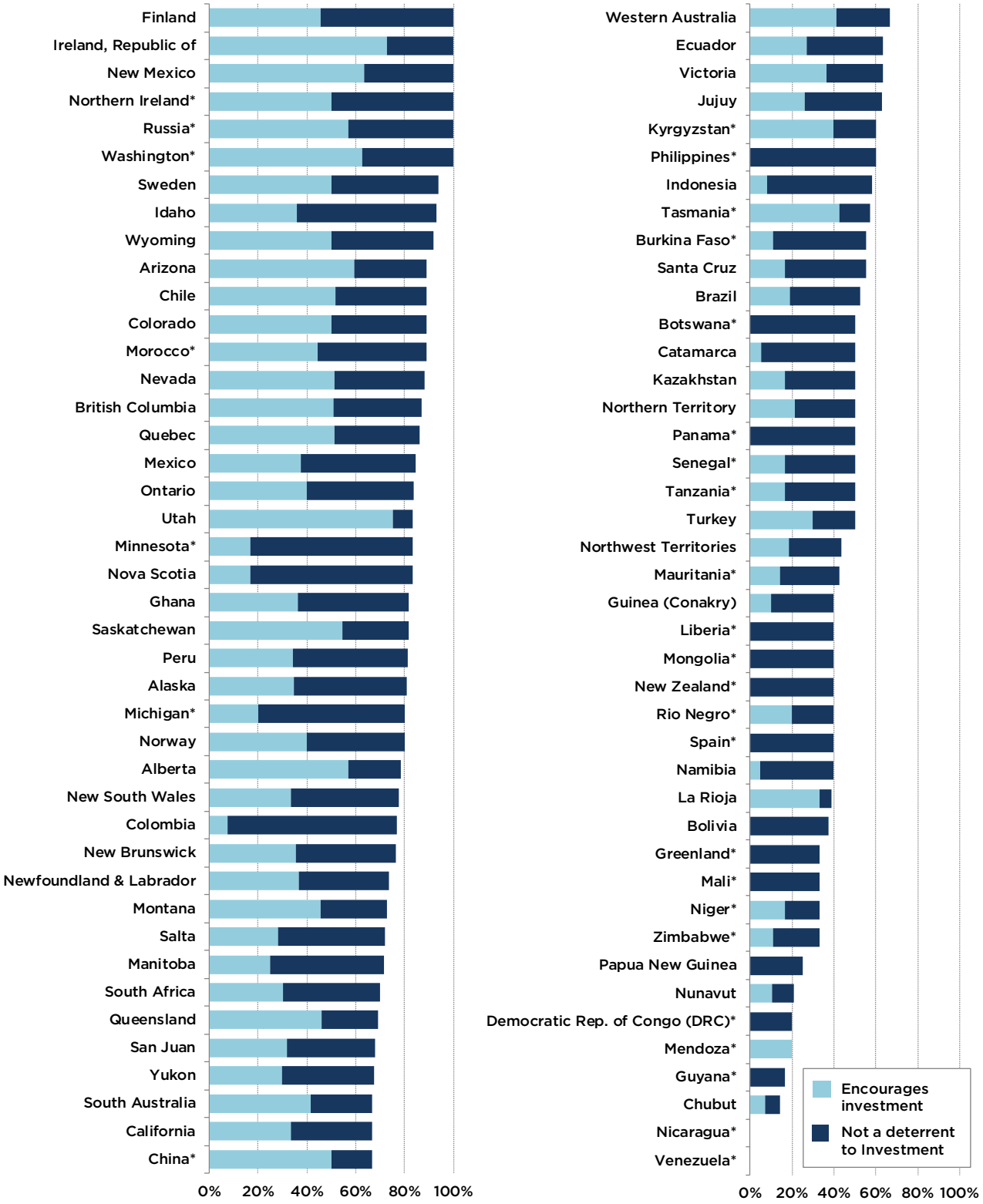
* Between 5 and 9 responses

Figure 31: Security



* Between 5 and 9 responses

Figure 32: Availability of Labor/Skills



* Between 5 and 9 responses

About the Authors

Jairo Yunis

Jairo Yunis is a Policy Analyst at the Fraser Institute. He holds a Bachelor of Political Science and International Relations from the Pontifical Xaverian University of Colombia and a Master's degree in Public Policy from the University of Calgary. Jairo has previously worked for government in Colombia in policy issues related to local economic development and competitiveness. He specializes in energy policy, with a focus on carbon pricing and electricity markets.

Elmira Aliakbari

Elmira Aliakbari is Associate Director of Natural Resource Studies at the Fraser Institute. She received a Ph.D. in Economics from the University of Guelph, and M.A. and B.S. degrees in Economics, both from the University of Tehran in Iran. She has studied public policy involving energy and the environment for nearly eight years. Prior to joining the Fraser Institute, Ms. Aliakbari was Director of Research, Energy, Ecology and Prosperity with the Frontier Center for Public Policy. She has presented her work at many academic conferences and has been published in the prestigious academic journal *Energy Economics*. Ms. Aliakbari's research has been discussed in prominent media outlets including the *Wall Street Journal*, and her commentaries have appeared in major Canadian and American newspapers such as the *Globe and Mail, Washington Times, National Post*, and *Financial Post*.

Acknowledgments

We would like to thank the hundreds of members of the mining community who have responded to the survey this year and in previous years. You do a service to your industry by providing such valuable information.

We would also like to thank a number of mining associations that generously helped inform their readers and members of the opportunity to participate in the survey. We would also like to thank then Executive Director Michael Walker and Laura Jones for conceptualizing this project over 20 years ago.

Publishing Information

Distribution

These publications are available from <http://www.fraserinstitute.org> in Portable Document Format (PDF) and can be read with Adobe Acrobat® or Adobe Reader®, versions 8 or later. Adobe Reader® DC, the most recent version, is available free of charge from Adobe Systems Inc. at <http://get.adobe.com/reader/>. Readers having trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Reader® or Acrobat®.

Ordering publications

To order printed publications from the Fraser Institute, please contact:

- e-mail: sales@fraserinstitute.org
- telephone: 604.688.0221 ext. 580 or, toll free, 1.800.665.3558 ext. 580
- fax: 604.688.8539.

Media

For media enquiries, please contact our communications department via e-mail: communications@fraserinstitute.org; telephone: 604.714.4582. In Toronto, contact our media specialist via telephone at 416.363.6575, ext. 238.

Copyright

Date of issue

April 2022

ISBN

978-0-88975-682-3

Citation

Yunis, Jairo, and Elmira Aliakbari (2022). *Fraser Institute Annual Survey of Mining Companies 2021*. Fraser Institute. <http://www.fraserinstitute.org>.

Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact

- Development Department, Fraser Institute
  Fourth Floor, 1770 Burrard Street
  Vancouver, British Columbia, V6J 3G7 Canada
- telephone, toll-free: 1.800.665.3558 ext. 548
- e-mail: development@fraserinstitute.org
- website:: http://www.fraserinstitute.org/donate

Purpose, funding, and independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Trustees and its donors.

The opinions expressed by authors are their own, and do not necessarily reflect those of the Institute, its Board of Trustees, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its trustees, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families, and future generations by studying, measuring, and broadly communicating the effects of government policies, entrepreneurship, and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

Editorial Advisory Board