

Fraser Institute Annual

SURVEY OF MINING COMPANIES 2016



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Survey information

The Fraser Institute Annual Survey of Mining Companies was sent to approximately 2,700 exploration, development, and other mining-related companies around the world. The survey was conducted from August 30th to November 18th, 2016. The companies that participated in the survey reported exploration spending of US\$2.7 billion in 2016 and US\$3.2 billion in 2015.

Executive Summary

2016 Mining Survey

This report presents the results of the Fraser Institute's 2016 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 2,700 individuals between August 30th and November 18th, 2016. Survey responses have been tallied to rank provinces, states, and countries according to the extent that public policy factors encourage or discourage mining investment.

A total of 350 responses were received for the survey, providing sufficient data to evaluate 104 jurisdictions. By way of comparison, 109 jurisdictions were evaluated in 2015, 122 in 2014, 112 in 2013, and 96 in 2012. 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.

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 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 only about 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 Saskatchewan, which moved up to first from second place in 2015. Manitoba moved up to second

place this year after ranking 19th the previous year. Western Australia dropped to third, after Saskatchewan displaced it as the most attractive jurisdiction in the world. Rounding out the top ten are Nevada, Finland, Quebec, Arizona, Sweden, the Republic of Ireland, and Queensland.

The bottom

When considering both policy and mineral potential in the Investment Attractiveness Index, the Argentinian province of Jujuy ranks as the least attractive jurisdiction in the world for investment. This year, Jujuy replaced another Argentinian province—La Rioja—as the least attractive jurisdiction in the world. Also in the bottom 10 (beginning with the worst) are Neuquen, Venezuela, Chubut, Afghanistan, La Rioja, Mendoza, India, Zimbabwe, and Mozambique.

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 104 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

For the fourth year in a row, the Republic of Ireland had the highest PPI score of 100. Ireland was followed by Saskatchewan in second, which moved up from 4th in the previous year. Along with Ireland and Saskatchewan, the top 10 ranked jurisdictions are Sweden, Finland, Nevada, Manitoba, Wyoming, New Brunswick, Western Australia, and Northern Ireland, which was included for the first time in the 2016 survey.

The bottom

The 10 least attractive jurisdictions for investment based on the PPI rankings (starting with the worst) are Venezuela, Afghanistan, Zimbabwe, Mongolia, Philippines, Indonesia, Chubut, South Sudan, Mendoza, and Ecuador. Venezuela, Zimbabwe, and Chubut were all in the bottom 10 jurisdictions last year. Two out of the 10 lowest-rated jurisdictions based on policy were Argentinian provinces.

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. As well, it is well beyond our capability to fully understand the details of the public policy environment around the world.

So, since 1997, the Fraser Institute has conducted an annual survey of 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 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 104 jurisdictions from all continents except Antarctica. There were insufficient responses to a number of the jurisdictions surveyed for us to be able to include them in the 2016 report.² These include Albania, Angola, Armenia, Belarus, Burundi, Cambodia, Central

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.

2 The minimum threshold for inclusion this year was 5 responses. However, jurisdictions with between 5 and 9 responses were also included but have been noted accordingly. Any jurisdiction with fewer than 5 responses was dropped.

African Republic, Egypt, Estonia, Gabon, Guinea (Conakry), Iraq, Israel, Jordan, Kyrgyzstan, Laos, Lesotho, Liberia, Madagascar, Malawi, Mauritania, Morocco, New Caledonia, Niger, Nigeria, Oman, Pakistan, Republic of the Congo (Brazzaville), Rio Negro, Saudi Arabia, Solomon Islands, Sudan, Suriname, Swaziland, Tajikistan, Thailand, Tunisia, and Vietnam.

Jurisdictions are added to the survey based on interest from survey respondents. 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 the report's appendix; they showed the breakdown of scores on each question for each individual jurisdiction. Those tables are now available online at fraserinstitute.org.

The Fraser Institute's mining survey is an informal survey that attempts to assess the perceptions of mining company executives about various areas of 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 positive feedback about the survey's utility from miners, investors, and policymakers, we believe that the survey captures, at least in broad strokes, the perceptions of those involved in both mining and the regulation of mining in the jurisdictions included in the survey.

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 and production. Jurisdictions that investors assessed as relatively unattractive may therefore be prompted to consider reforms that would improve their ranking. Presumably, mining companies use the information that is 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 2016 survey was distributed to approximately 2,700 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 30th to November 18th, 2016. A total of 350 responses were received from individuals, of whom 301 completed the full survey and 49 completed part of the survey. As figure 1 illustrates, over half of the respondents (53%) are either the company president or vice-president, and a further 28% are either managers or senior managers. The companies that participated in the survey reported exploration spending of US\$2.7 billion in 2016 and US\$3.2 billion

Figure 1: The Position Survey Respondents Hold in Their Company, 2016

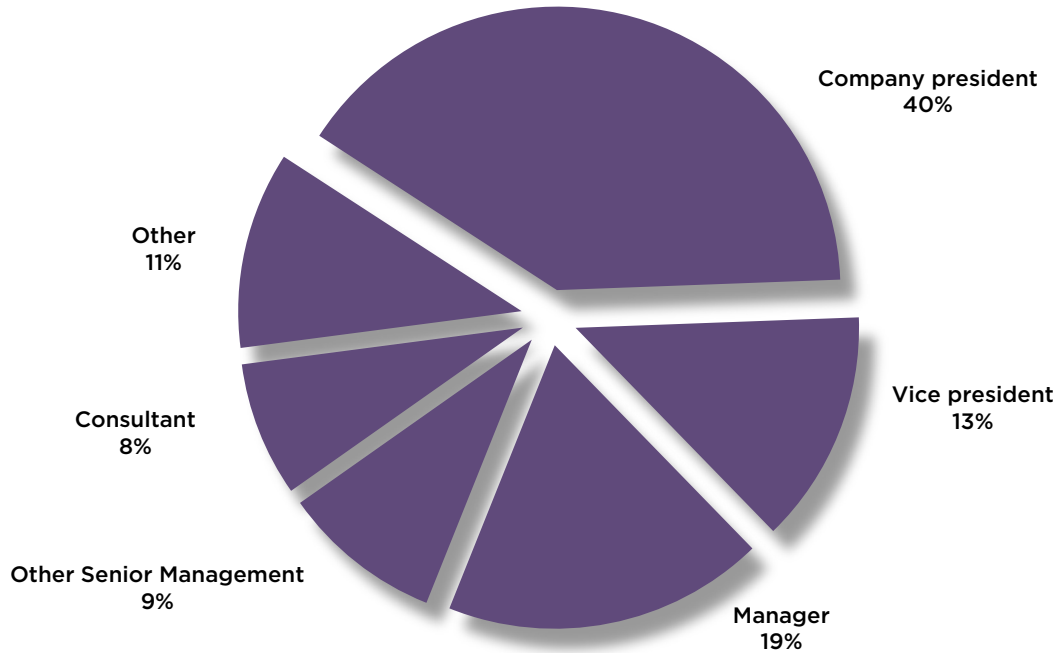
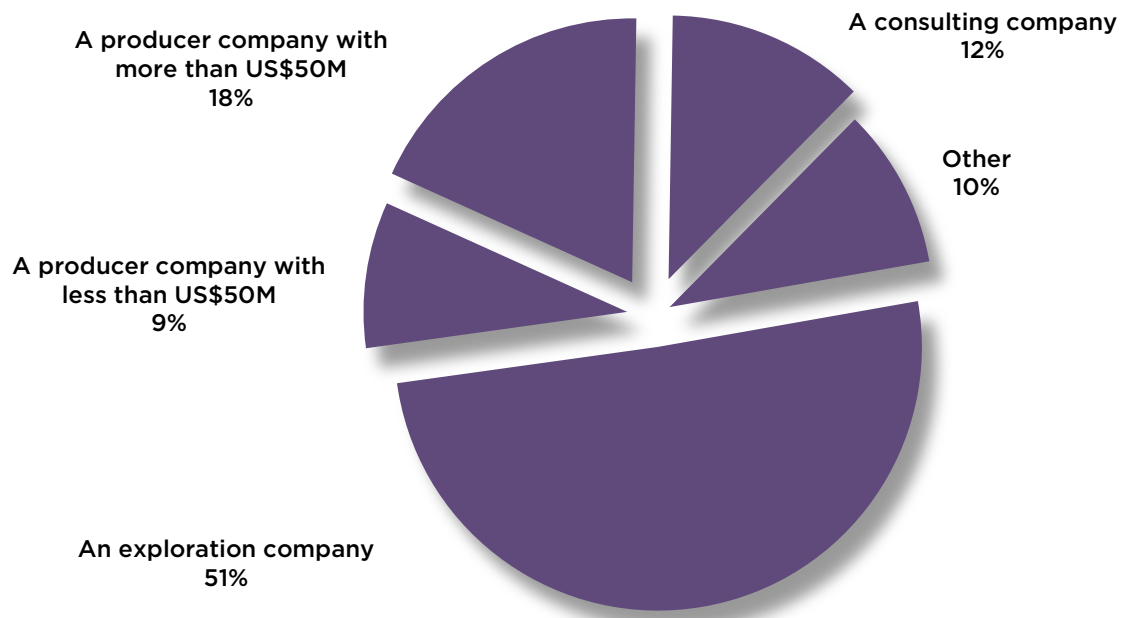


Figure 2: Company Focus as Indicated by Respondents, 2016



in 2015. This represents an increase from the 2015 *Survey of Mining Companies* (where exploration spending of US\$2.2 billion in 2015 and US\$2.5 billion in 2014 was reported), and could possibly be a sign that the previous trend of decreases in exploration spending year after year, likely due to a downturn in commodity prices, is softening or coming to an end.

Figure 2 shows that slightly over half of the 2016 survey respondents represent an exploration company. Just over a quarter (27 percent) of the respondents represent producer companies, and the final 22 percent is made up of consulting and other companies.

Survey questionnaire

The survey was designed to capture the opinions of managers and executives about the level of investment barriers in jurisdictions with which their companies were familiar. Respondents were 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 and results from the Best Practices Mineral Potential Index.³ 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 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 roughly 40 percent of their investment decision is determined by policy factors. To get a true sense of which global jurisdictions are attracting investment, mineral potential must also 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 59.48 percent mineral potential and 40.52 percent policy. We maintain a 60/40 ratio in calculating this index to allow comparability with other years.

The Policy Perception Index (table 2 and figure 4) is used to provide the data on the policy perceptions of various jurisdictions (see below for explanation on how the index is calculated). Meanwhile, the rankings from the Best Practices Mineral Potential Index (table 3 and figure 5), which is based on the percentage of responses for “encourages investment” and a half-weighting of the responses for “not a deterrent to investment,” is used to provide data on the mineral potential. The relative trends observed over the last five years for the performance of each of the jurisdictions on the Investment Attractiveness Index are detailed in table 1.

A 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

3 A best practice environment is one that 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

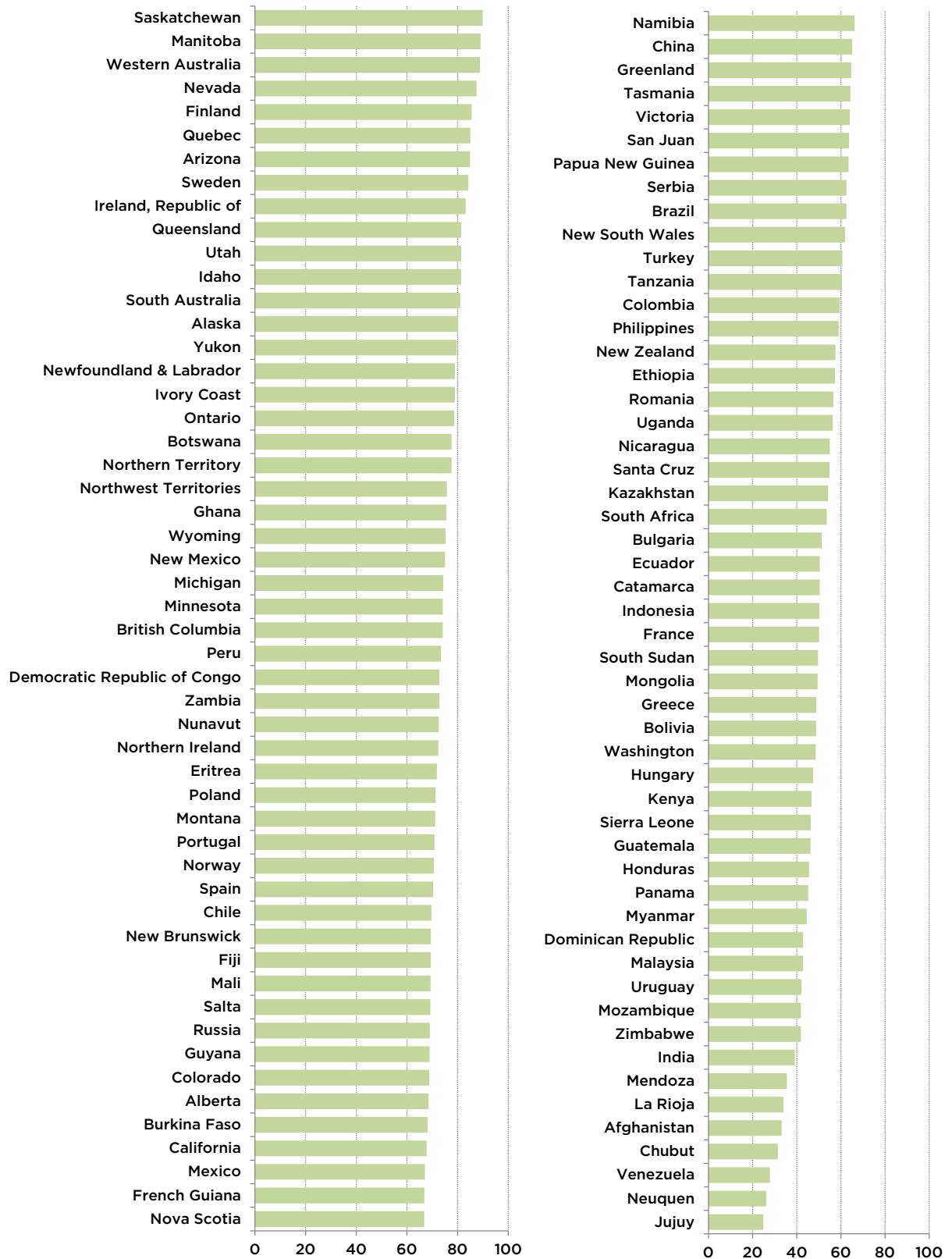


Table 1: Investment Attractiveness Index

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Canada	Alberta	68.55	69.71	74.78	78.49	71.87	47/104	34/109	28/122	14/112	27/96
	British Columbia	74.15	75.71	74.27	79.02	72.32	27/104	18/109	29/122	13/112	26/96
	Manitoba	89.05	75.27	84.14	79.90	73.03	2/104	19/109	5/122	12/112	24/96
	New Brunswick	69.45	66.51	77.34	74.38	74.79	40/104	45/109	19/122	26/112	17/96
	Newfoundland & Labrador	78.94	73.55	83.27	83.93	74.99	16/104	25/109	8/122	3 /112	16/96
	Northwest Territories	75.77	69.48	79.73	76.32	73.62	21/104	35/109	15/122	21/112	21/96
	Nova Scotia	66.80	59.51	66.27	65.25	60.35	52/104	59/109	49/122	46/112	46/96
	Nunavut	72.52	74.37	73.23	75.12	73.38	31/104	23/109	34/122	25/112	23/96
	Ontario	78.65	78.02	76.05	78.13	77.73	18/104	15/109	23/122	16/112	12/96
	Quebec	85.02	80.80	81.51	75.21	77.05	6/104	8/109	10/122	24/112	13/96
	Saskatchewan	89.91	85.73	86.27	82.36	81.70	1/104	2/109	2/122	6/112	5/96
Yukon	79.61	79.16	83.68	81.39	84.12	15/104	12/109	6/122	8/112	1/96	
United States	Alaska	80.27	83.96	81.28	82.38	80.13	14/104	6/109	12/122	5/112	7/96
	Arizona	84.91	76.33	80.59	77.42	73.46	7/104	17/109	13/122	17/112	22/96
	California	67.81	59.26	61.95	58.09	51.92	49/104	61/109	57/122	66/112	69/96
	Colorado	68.85	72.28	71.43	65.75	61.72	46/104	28/109	39/122	43/112	44/96
	Idaho	81.34	64.44	81.33	73.44	66.47	12/104	50/109	11/122	27/112	34/96
	Michigan	74.38	73.10	72.44	71.89	58.10	25/104	27/109	37/122	29/112	56/96
	Minnesota	74.18	74.46	76.69	66.84	60.20	26/104	21/109	20/122	39/112	48/96
	Montana	71.16	68.27	73.25	68.23	64.15	35/104	40/109	33/122	37/112	37/96
	Nevada	87.48	85.39	88.38	87.47	82.68	4/104	3/109	1/122	1/112	2/96
	New Mexico	75.03	60.95	72.50	64.90	59.55	24/104	58/109	36/122	48/112	50/96
	Utah	81.39	80.31	79.68	80.22	75.72	11/104	9/109	18/122	11/112	15/96
	Washington	48.58	66.13	55.57	56.35	48.72	84/104	46/109	79/122	70/112	78/96
Wyoming	75.26	78.07	83.54	78.35	79.79	23/104	14/109	7/122	15/112	8/96	
Australia	New South Wales	61.84	68.83	62.40	68.57	60.57	62/104	38/109	55/122	36/112	45/96
	Northern Territory	77.61	81.90	73.89	76.49	74.48	20/104	7/109	31/122	19/112	19/96
	Queensland	81.40	77.79	76.24	76.33	74.01	10/104	16/109	22/122	20/112	20/96
	South Australia	81.03	79.83	79.71	75.97	74.73	13/104	10/109	16/122	23/112	18/96
	Tasmania	64.27	71.34	66.43	65.71	54.40	56/104	30/109	46/122	44/112	66/96
	Victoria	63.96	59.16	58.04	63.87	54.41	57/104	62/109	69/122	51/112	65/96
	Western Australia	88.88	87.35	84.33	86.88	80.20	3/104	1/109	4/122	2/112	6/96
Oceania	Fiji*	69.43	53.87	65.70	49.69	**	41/104	79/109	50/122	87/112	**
	Indonesia	50.16	65.16	55.24	58.01	61.96	78/104	49/109	81/122	67/112	43/96
	Malaysia*	42.80	54.44	32.47	60.12	**	93/104	76/109	121/122	58/112	**
	New Zealand	57.47	66.73	66.38	65.85	60.22	67/104	44/109	48/122	41/112	47/96
	Papua New Guinea	63.48	67.15	61.92	63.64	66.62	59/104	43/109	58/122	52/112	33/96
	Philippines	58.97	56.59	48.78	64.54	59.36	66/104	72/109	95/122	49/112	51/96

Table 1 continued

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Africa	Botswana	77.62	68.32	75.10	76.21	81.92	19/104	39/109	27/122	22/112	4/96
	Burkina Faso	68.18	71.88	63.80	65.16	60.08	48/104	29/109	53/122	47/112	49/96
	Democratic Republic of Congo (DRC)	72.80	59.37	58.38	54.86	50.39	29/104	60/109	67/122	75/112	75/96
	Eritrea*	71.86	68.10	55.51	66.50	**	33/104	41/109	80/122	40/112	**
	Ethiopia*	57.32	64.11	50.76	55.05	**	68/104	51/109	89/122	74/112	**
	Ghana	75.56	71.27	67.17	71.30	63.47	22/104	31/109	44/122	30/112	38/96
	Ivory Coast*	78.93	67.99	62.35	59.09	**	17/104	42/109	56/122	61/112	**
	Kenya	46.71	38.43	35.24	56.16	**	86/104	102/109	120/122	71/112	**
	Mali	69.32	50.84	64.70	54.68	50.78	42/104	83/109	51/122	76/112	73/96
	Mozambique*	41.87	50.69	55.91	44.72	**	95/104	84/109	75/122	96/112	**
	Namibia	66.11	69.78	76.37	68.97	68.30	53/104	33/109	21/122	35/112	29/96
	Sierra Leone*	46.26	**	43.11	52.46	**	87/104	**	103/122	82/112	**
	South Africa	53.62	58.04	56.49	61.50	53.76	74/104	66/109	74/122	57/112	68/96
	South Sudan*	49.60	**	37.13	**	**	80/104	**	116/122	**	**
	Tanzania	60.45	57.46	63.82	58.40	62.53	64/104	69/109	52/122	65/112	41/96
Uganda*	56.34	**	50.48	**	**	70/104	**	90/122	**	**	
Zambia	72.78	57.48	75.71	70.30	63.01	30/104	68/109	25/122	33/112	40/96	
Zimbabwe	41.84	41.45	39.07	36.04	35.50	96/104	98/109	112/122	109/112	93/96	
Argentina	Catamarca	50.38	42.29	69.14	43.57	58.37	77/104	96/109	41/122	99/112	55/96
	Chubut	31.47	37.75	49.94	43.40	42.50	101/104	104/109	92/122	100/112	86/96
	Jujuy	24.83	49.57	58.92	46.94	51.28	104/104	86/109	65/122	92/112	71/96
	La Rioja**	33.94	28.86	41.96	38.92	49.64	99/104	109/109	107/122	106/112	76/96
	Mendoza	35.51	38.51	38.09	44.50	45.63	98/104	101/109	114/122	97/112	84/96
	Neuquen**	26.13	45.17	52.02	43.28	41.39	103/104	93/109	86/122	101/112	89/96
	Salta	69.25	56.69	73.71	63.02	54.28	43/104	71/109	32/122	55/112	67/96
	San Juan	63.69	54.97	72.78	58.57	58.44	58/104	75/109	35/122	64/112	54/96
	Santa Cruz	54.80	42.59	55.81	53.94	55.75	72/104	95/109	77/122	77/112	60/96
Latin America and the Caribbean Basin	Bolivia	48.74	44.56	44.74	42.87	35.60	83/104	94/109	99/122	102/112	92/96
	Brazil	62.51	61.45	69.27	65.63	64.99	61/104	56/109	40/122	45/112	36/96
	Chile	69.66	79.81	81.86	82.54	78.52	39/104	11/109	9/122	4/112	11/96
	Colombia	59.52	62.75	61.29	58.61	66.68	65/104	55/109	61/122	63/112	32/96
	Dominican Republic**	42.82	52.89	50.40	51.50	54.42	92/104	81/109	91/122	85/112	64/96
	Ecuador	50.38	45.36	46.94	40.02	41.90	76/104	92/109	97/122	105/112	87/96
	French Guiana**	66.86	46.67	53.51	41.80	49.21	51/104	89/109	83/122	103/112	77/96
	Guatemala**	46.24	41.77	38.32	47.48	41.07	88/104	97/109	113/122	90/112	90/96

Table 1 continued

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Latin America and the Caribbean Basin (cont.)	Guyana*	68.97	50.91	66.38	55.79	58.82	45/104	82/109	47/122	72/112	52/96
	Honduras*	45.57	35.36	38.08	36.72	30.24	89/104	107/109	115/122	108/112	95/96
	Mexico	67.06	68.93	75.96	71.05	72.69	50/104	37/109	24/122	31/112	25/96
	Nicaragua	55.02	58.38	63.28	50.32	**	71/104	65/109	54/122	86/112	**
	Panama*	45.20	55.09	61.13	59.99	50.56	90/104	74/109	62/122	59/112	74/96
	Peru	73.47	69.26	75.35	69.85	63.23	28/104	36/109	26/122	34/112	39/96
	Uruguay*	42.08	39.39	54.33	31.76	**	94/104	99/109	82/122	111/112	**
Venezuela	27.86	31.88	31.80	24.27	27.60	102/104	108/109	122/122	112/112	96/96	
Asia	Afghanistan*	33.11	**	**	**	**	100/104	**	**	**	**
	China	65.13	58.49	48.89	58.69	54.50	54/104	64/109	94/122	62/112	63/96
	India*	39.11	55.47	58.26	52.13	58.69	97/104	73/109	68/122	84/112	53/96
	Kazakhstan*	54.08	74.66	50.84	63.45	62.50	73/104	20/109	88/122	53/112	42/96
	Mongolia	49.42	50.03	49.22	53.25	67.04	81/104	85/109	93/122	80/112	31/96
	Myanmar*	44.47	48.92	61.70	53.32	**	91/104	87/109	60/122	79/112	*
Europe	Bulgaria	51.31	58.54	42.77	56.55	46.43	75/104	63/109	104/122	69/112	83/96
	Finland	85.56	84.00	85.70	81.23	82.00	5/104	5/109	3/122	10/112	3/96
	France*	50.10	53.41	61.78	59.82	**	79/104	80/109	59/122	60/112	**
	Greenland	64.63	73.43	68.58	81.72	79.60	55/104	26/109	42/122	7/112	9/96
	Greece*	48.77	35.43	42.39	48.90	30.34	82/104	106/109	106/122	88/112	94/96
	Hungary*	47.41	**	39.59	**	**	85/104	**	111/122	**	**
	Ireland, Republic of	83.13	85.00	80.20	76.57	65.60	9/104	4/109	14/122	18/112	35/96
	Northern Ireland	72.41	**	**	**	**	32/104	**	**	**	**
	Norway	70.59	70.68	67.99	70.53	69.91	37/104	32/109	43/122	32/112	28/96
	Poland	71.34	61.37	58.03	65.84	46.76	34/104	57/109	70/122	42/112	82/96
	Portugal	70.86	74.40	71.51	62.84	**	36/104	22/109	38/122	56/112	**
	Romania	56.57	57.76	43.98	43.58	43.94	69/104	67/109	101/122	98/112	85/96
	Russia*	69.02	65.86	60.14	52.35	57.20	44/104	47/109	64/122	83/112	58/96
	Serbia	62.54	63.20	58.74	63.21	67.46	60/104	53/109	66/122	54/112	30/96
	Spain	70.39	65.41	56.75	67.01	55.69	38/104	48/109	72/122	38/112	61/96
	Sweden	84.26	78.58	79.70	81.29	79.40	8/104	13/109	17/122	9/112	10/96
Turkey	60.67	64.04	56.71	72.77	76.12	63/104	52/109	73/122	28/112	14/96	

Notes:

* Between 5 and 9 responses

** 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.

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 categories⁴, 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 $\frac{V_{max} - V_i}{V_{max} - V_{min}} \times 100$

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.

⁴ The methodology used previously only considered responses in the "encourages investment" category..

Table 2: Policy Perception Index

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Canada	Alberta	83.89	92.24	93.95	97.15	94.17	28/104	7/109	7/122	3 /112	5/96
	British Columbia	76.57	75.28	70.18	78.07	72.80	41/104	41/109	54/122	42/112	39/96
	Manitoba	96.62	88.90	88.84	82.89	79.07	6/104	13/109	15/122	26/112	26/96
	New Brunswick	94.21	91.27	95.85	96.93	96.98	8/104	9/109	3/122	5/112	3/96
	Newfoundland & Labrador	89.01	88.24	94.17	92.75	85.46	18/104	15/109	6/122	9/112	15/96
	Northwest Territories	72.77	64.46	73.33	74.03	74.55	48/104	58/109	47/122	47/112	37/96
	Nova Scotia	91.99	87.85	93.68	88.20	90.87	11/104	17/109	8/122	16/112	11/96
	Nunavut	68.80	68.85	72.07	75.90	72.45	58/104	54/109	51/122	46/112	40/96
	Ontario	84.69	79.48	76.12	79.30	81.83	26/104	31/109	36/122	33/112	23/96
	Quebec	89.82	85.02	83.78	78.37	83.13	17/104	22/109	20/122	39/112	21/96
	Saskatchewan	98.87	95.10	95.67	92.43	93.26	2/104	4/109	5/122	10/112	8/96
Yukon	84.81	76.66	78.70	85.13	88.79	25/104	39/109	32/122	24/112	13/96	
United States	Alaska	85.42	84.89	75.70	80.99	83.33	23/104	23/109	38/122	29/112	20/96
	Arizona	90.64	87.88	84.48	88.78	81.65	14/104	16/109	18/122	14/112	24/96
	California	57.04	63.48	60.36	62.57	53.30	74/104	59/109	73/122	68/112	65/96
	Colorado	73.02	78.06	79.57	78.20	70.31	47/104	36/109	29/122	41/112	44/96
	Idaho	90.86	86.10	83.32	85.64	82.18	13/104	19/109	21/122	22/112	22/96
	Michigan	90.49	87.75	80.60	86.57	77.76	15/104	18/109	27/122	18/112	29/96
	Minnesota	78.31	82.30	80.72	87.67	75.50	37/104	28/109	26/122	17/112	34/96
	Montana	71.16	77.58	73.63	78.78	71.89	52/104	37/109	46/122	36/112	41/96
	Nevada	97.64	94.07	91.95	95.97	92.70	5/104	6/109	10/122	7/112	9/96
	New Mexico	81.89	77.37	79.25	79.37	75.37	30/104	38/109	31/122	32/112	35/96
	Utah	88.09	89.47	88.20	90.08	93.30	20/104	11/109	16/122	11/112	7/96
	Washington	63.13	75.32	62.43	69.48	66.30	67/104	40/109	70/122	54/112	52/96
Wyoming	94.40	97.09	93.35	96.95	95.97	7/104	2/109	9/122	4/112	4/96	
Australia	New South Wales	63.91	69.12	75.01	78.49	77.93	66/104	51/109	41/122	37/112	27/96
	Northern Territory	85.70	85.15	82.72	86.22	84.20	22/104	21/109	23/122	20/112	17/96
	Queensland	78.50	79.19	78.10	81.40	77.02	36/104	32/109	33/122	28/112	32/96
	South Australia	87.05	85.50	86.78	88.30	83.33	21/104	20/109	17/122	15/112	19/96
	Tasmania	81.51	78.34	73.08	78.99	67.01	32/104	34/109	49/122	34/112	51/96
	Victoria	73.80	72.91	76.09	79.64	76.03	42/104	43/109	37/122	31/112	33/96
	Western Australia	93.20	91.53	90.83	94.19	85.00	9/104	8/109	12/122	8/112	16/96
Oceania	Fiji*	73.57	69.06	71.26	64.22	**	44/104	53/109	53/122	63/112	**
	Indonesia	29.93	40.41	34.60	35.90	36.39	99/104	91/109	110/122	106/112	88/96
	Malaysia*	69.51	61.10	51.19	70.28	**	55/104	64/109	90/122	53/112	**
	New Zealand	77.51	79.83	77.45	83.26	81.55	39/104	30/109	35/122	25/112	25/96
	Papua New Guinea	47.99	51.96	49.81	43.37	48.06	83/104	77/109	93/122	96/112	72/96
	Philippines	28.68	41.48	33.46	42.41	37.40	100/104	89/109	113/122	99/112	86/96

Table 2 continued

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Africa	Botswana	91.79	88.29	90.26	89.05	92.29	12/104	14/109	14/122	12/112	10/96
	Burkina Faso	72.37	71.90	75.50	78.22	67.69	51/104	44/109	39/122	40/112	48/96
	Democratic Republic of Congo (DRC)	60.58	42.74	40.95	33.43	20.98	70/104	87/109	105/122	107/112	93/96
	Eritrea*	72.50	73.81	59.28	72.50	**	49/104	42/109	76/122	48/112	**
	Ethiopia*	53.29	70.27	51.89	62.56	**	79/104	48/109	87/122	69/112	**
	Ghana	81.76	69.09	74.93	77.60	71.67	31/104	52/109	42/122	43/112	42/96
	Ivory Coast*	77.33	62.84	65.87	58.40	**	40/104	60/109	64/122	74/112	**
	Kenya	55.40	46.08	53.61	59.54	**	76/104	84/109	85/122	72/112	**
	Mali	65.48	60.86	65.76	57.21	54.94	61/104	65/109	65/122	77/112	64/96
	Mozambique*	59.66	51.72	57.27	57.58	**	72/104	79/109	80/122	75/112	**
	Namibia	77.77	80.70	84.44	81.52	77.76	38/104	29/109	19/122	27/112	30/96
	Sierra Leone*	51.36	**	53.78	56.14	**	80/104	**	84/122	79/112	**
	South Africa	47.50	51.91	54.24	56.85	48.90	84/104	78/109	83/122	78/112	70/96
	South Sudan*	33.99	**	17.82	**	**	97/104	**	120/122	**	**
	Tanzania	66.13	62.12	69.56	62.67	55.83	59/104	63/109	56/122	67/112	62/96
Uganda*	65.86	**	64.69	**	**	60/104	**	66/122	**	**	
Zambia	73.61	62.69	75.28	72.33	67.51	43/104	61/109	40/122	49/112	50/96	
Zimbabwe	18.06	24.67	13.68	17.71	10.75	102/104	106/109	121/122	111/112	95/96	
Argentina	Catamarca	59.28	44.35	60.35	48.24	60.43	73/104	85/109	74/122	92/112	60/96
	Chubut	31.79	25.13	34.86	37.26	34.26	98/104	105/109	109/122	104/112	89/96
	Jujuy	37.07	42.68	54.31	60.29	41.20	93/104	88/109	82/122	71/112	80/96
	La Rioja**	37.96	22.15	37.40	39.99	40.10	92/104	107/109	108/122	101/112	81/96
	Mendoza	34.23	35.56	27.72	43.24	39.07	96/104	98/109	117/122	98/112	83/96
	Neuquen**	50.33	25.43	49.05	49.32	49.48	81/104	104/109	95/122	88/112	69/96
	Salta	83.13	62.30	73.28	68.08	62.20	29/104	62/109	48/122	55/112	57/96
	San Juan	73.50	53.61	67.94	58.91	60.60	46/104	72/109	60/122	73/112	58/96
	Santa Cruz	62.00	40.86	42.02	47.78	46.37	69/104	90/109	103/122	94/112	75/96
Latin America and the Caribbean Basin	Bolivia	42.16	36.40	29.34	22.27	15.50	87/104	95/109	115/122	110/112	94/96
	Brazil	64.97	56.57	59.17	63.65	64.98	64/104	69/109	77/122	65/112	53/96
	Chile	78.68	83.50	83.16	85.89	83.80	35/104	26/109	22/122	21/112	18/96
	Colombia	45.68	53.75	57.23	50.53	60.19	86/104	70/109	81/122	87/112	61/96
	Dominican Republic**	62.04	65.55	50.99	60.35	70.06	68/104	57/109	91/122	70/112	45/96
	Ecuador	34.28	43.41	27.36	23.54	23.74	95/104	86/109	118/122	108/112	92/96
	French Guiana**	79.64	52.39	58.79	67.08	67.53	34/104	74/109	78/122	57/112	49/96
	Guatemala**	40.59	46.09	47.79	48.35	36.66	89/104	83/109	98/122	91/112	87/96

Table 2 continued

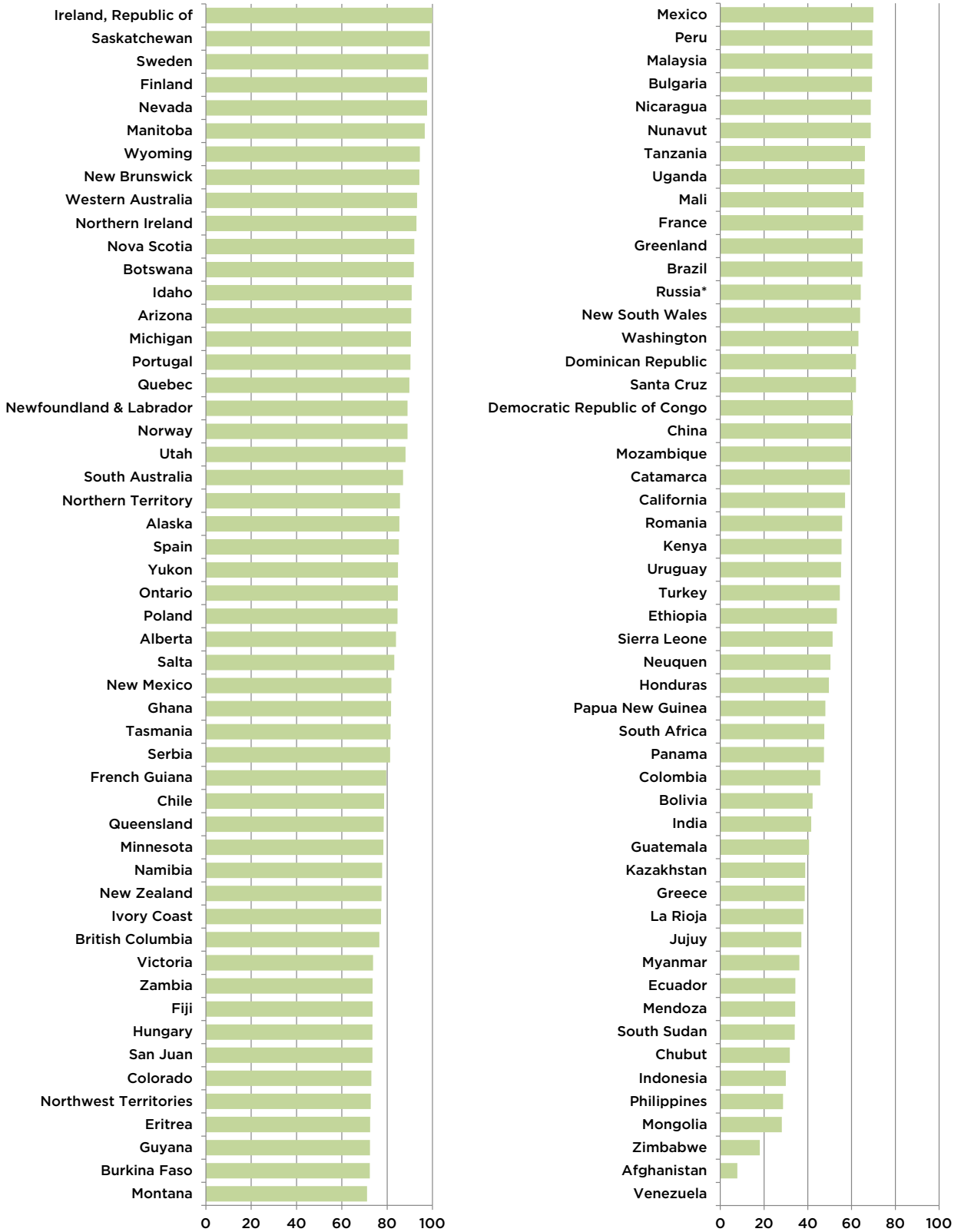
		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Latin America and the Caribbean Basin (cont.)	Guyana*	72.44	59.76	71.45	64.40	64.54	50/104	67/109	52/122	62/112	54/96
	Honduras*	49.65	33.86	33.70	43.28	32.10	82/104	100/109	112/122	97/112	90/96
	Mexico	69.97	71.14	72.90	71.50	73.72	53/104	47/109	50/122	50/112	38/96
	Nicaragua	68.81	53.64	68.20	63.33	**	57/104	71/109	59/122	66/112	**
	Panama*	47.37	57.72	67.32	71.23	63.40	85/104	68/109	61/122	51/112	56/96
	Peru	69.54	66.80	68.37	65.29	60.57	54/104	55/109	58/122	60/112	59/96
	Uruguay*	55.21	66.33	81.82	67.86	**	77/104	56/109	25/122	56/112	**
	Venezuela	0.00	0.00	0.00	0.00	0.00	104/104	109/109	122/122	112/112	96/96
Asia	Afghanistan*	7.78	**	**	**	**	103/104	**	**	**	**
	China	59.71	46.22	42.73	52.30	47.74	71/104	82/109	102/122	85/112	73/96
	India*	41.52	47.61	60.16	55.34	43.22	88/104	81/109	75/122	80/112	77/96
	Kazakhstan*	38.77	70.00	46.09	57.38	55.75	90/104	50/109	100/122	76/112	63/96
	Mongolia	28.08	36.85	28.55	44.02	41.60	101/104	94/109	116/122	95/112	78/96
	Myanmar*	36.16	17.31	47.75	40.91	**	94/104	108/109	99/122	100/112	**
Europe	Bulgaria	69.34	71.35	57.44	66.44	68.09	56/104	46/109	79/122	59/112	47/96
	Finland	97.64	94.83	98.74	96.81	100.00	4/104	5/109	2/122	6/112	1/96
	France*	65.25	70.07	79.45	78.45	**	62/104	49/109	30/122	38/112	**
	Greenland	65.14	83.58	79.94	86.48	88.01	63/104	25/109	28/122	19/112	14/96
	Greece*	38.59	38.57	60.97	39.74	38.35	91/104	93/109	72/122	102/112	84/96
	Hungary*	73.53	**	68.97	**	**	45/104	**	57/122	**	**
	Ireland, Republic of	100.00	100.00	100.00	100.00	93.51	1/104	1/109	1/122	1/112	6/96
	Northern Ireland	92.97	**	**	**	**	10/104	**	**	**	**
	Norway	88.98	89.19	90.47	88.88	89.26	19/104	12/109	13/122	13/112	12/96
	Poland	84.59	78.43	74.58	78.87	64.39	27/104	33/109	43/122	35/112	55/96
	Portugal	90.30	89.56	91.78	85.48	**	16/104	10/109	11/122	23/112	**
	Romania	55.71	52.74	48.44	37.70	46.84	75/104	73/109	96/122	103/112	74/96
	Russia*	64.22	52.15	48.36	48.67	45.50	65/104	75/109	97/122	90/112	76/96
	Serbia	81.35	83.01	77.84	76.81	71.14	33/104	27/109	34/122	45/112	43/96
	Spain	85.18	78.29	74.36	80.00	74.73	24/104	35/109	45/122	30/112	36/96
	Sweden	98.15	96.45	95.74	99.65	98.00	3/104	3/109	4/122	2/112	2/96
Turkey	54.61	71.46	69.78	76.85	77.79	78/104	45/109	55/122	44/112	28/96	

Notes:

* Between 5 and 9 responses

** Not Available

Figure 4: Policy Perception Index



Best Practices Mineral Potential Index

Figure 5 and table 3 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, figure 5 represents, in a sense, a jurisdiction’s “pure” mineral potential, since it assumes a “best practices” policy regime.

The “Best Practice 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 Western Australia was calculated by adding the percent of respondents who rated Western Australia’s mineral potential as “encourages investment” (76 percent) with the 20 percent that responded “not a deterrent to investment,” which was half weighted at 10 percent. Thus, Western Australia has a score of 86, taking into account rounding, for 2016. 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.

Figure 5: Best Practices Mineral Potential Index

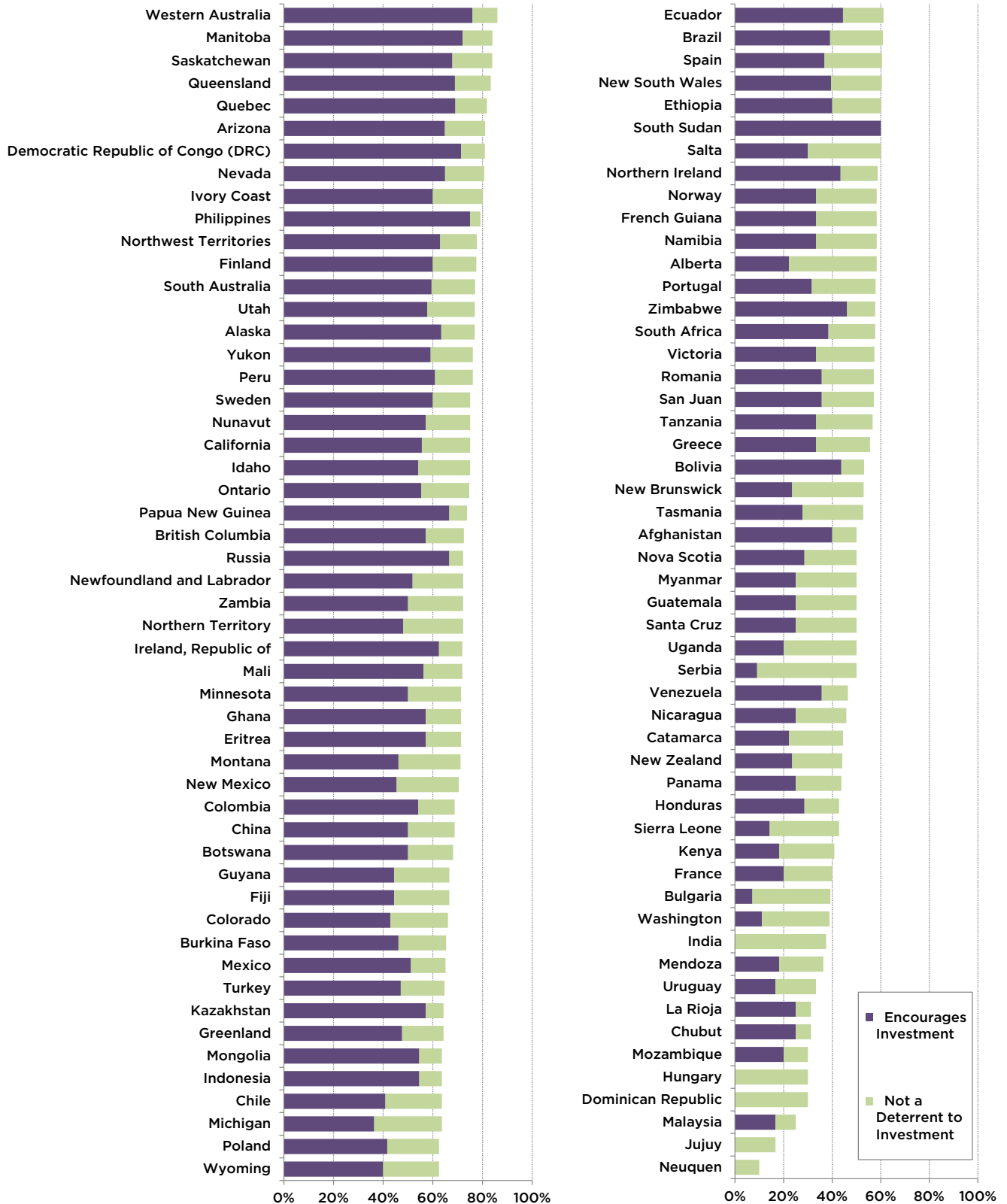


Table 3: Best Practices Mineral Potential Index

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Canada	Alberta	58.33	54.69	62.07	66.07	57.14	61/104	70/109	53/122	34/112	50/ 96
	British Columbia	72.53	76.00	77.08	79.69	71.57	24/104	17/109	14/122	5/112	18/ 96
	Manitoba	84.00	66.18	81.11	77.91	68.84	2/104	42/109	5/122	10/112	25/ 96
	New Brunswick	52.94	50.00	65.15	59.38	59.76	74/104	78/109	44/122	52/112	44/ 96
	Newfoundland & Labrador	72.22	63.75	76.04	78.05	67.69	25/104	48/109	17/122	9/112	29/ 96
	Northwest Territories	77.78	72.83	84.44	77.85	72.50	11/104	21/109	4/122	11/112	16/ 96
	Nova Scotia	50.00	40.63	47.92	50.00	40.38	76/104	99/109	92/122	78/112	86/ 96
	Nunavut	75.00	78.05	73.75	74.66	73.58	18/104	8/109	26/122	15/112	12/ 96
	Ontario	74.62	77.04	75.77	77.35	75.00	22/104	13/109	18/122	12/112	8/ 96
	Quebec	81.82	77.98	79.72	73.13	72.61	5/104	9/109	9/122	17/112	16/ 96
	Saskatchewan	83.93	79.49	79.35	75.64	74.14	3/104	7/109	11/122	14/112	12/ 96
Yukon	76.14	80.83	85.94	78.87	80.77	16/104	4/109	1/122	7/112	2/ 96	
United States	Alaska	76.83	83.33	85.09	83.33	78.49	15/104	2/109	3/122	1/112	5/ 96
	Arizona	81.08	68.63	77.78	69.89	68.12	6/104	31/109	13/122	25/112	29/ 96
	California	75.00	56.45	63.51	55.07	50.81	19/104	65/109	49/122	65/112	63/ 96
	Colorado	66.07	68.42	65.12	57.46	55.88	41/104	33/109	45/122	58/112	55/ 96
	Idaho	75.00	50.00	80.00	65.31	56.38	20/104	78/109	8/122	36/112	55/ 96
	Michigan	63.64	63.33	66.67	62.07	44.74	47/104	49/109	41/122	42/112	75/ 96
	Minnesota	71.43	69.23	73.68	52.94	50.00	31/104	28/109	27/122	75/112	64/ 96
	Montana	71.15	62.07	72.22	61.22	59.30	34/104	52/109	29/122	45/112	45/ 96
	Nevada	80.70	79.61	85.80	81.85	75.56	8/104	6/109	2/122	3/112	7/ 96
	New Mexico	70.45	50.00	67.86	55.21	48.65	35/104	78/109	39/122	64/112	67/ 96
	Utah	76.92	74.19	74.19	73.64	63.64	14/104	20/109	25/122	16/112	39/ 96
	Washington	38.89	60.00	50.00	47.62	36.90	93/104	56/109	83/122	87/112	88/ 96
Wyoming	62.50	65.38	76.79	65.91	69.32	51/104	43/109	16/122	35/112	25/ 96	
Australia	New South Wales	60.47	68.63	53.92	61.94	48.89	56/104	31/109	77/122	43/112	67/ 96
	Northern Territory	72.22	79.73	67.95	70.00	68.18	26/104	5/109	38/122	23/112	29/ 96
	Queensland	83.33	76.85	75.00	72.97	71.74	4/104	14/109	19/122	18/112	18/ 96
	South Australia	77.03	76.04	74.47	67.74	68.64	13/104	16/109	24/122	29/112	25/ 96
	Tasmania	52.78	66.67	62.00	56.90	46.43	75/104	35/109	54/122	60/112	73/ 96
	Victoria	57.41	50.00	45.16	53.41	40.00	68/104	78/109	97/122	72/112	86/ 96
	Western Australia	86.00	84.56	79.51	82.00	76.50	1/104	1/109	10/122	2/112	6/ 96
Oceania	Fiji*	66.67	43.75	61.54	40.00	**	39/104	93/109	55/122	101/112	**
	Indonesia	63.64	81.67	68.06	72.73	78.95	48/104	3/109	37/122	20/112	3/ 96
	Malaysia*	25.00	50.00	20.00	53.33	**	102/104	78/109	121/122	73/112	**
	New Zealand	44.12	58.00	59.26	54.29	46.15	86/104	62/109	63/122	68/112	75/ 96
	Papua New Guinea	73.81	77.27	70.00	77.14	79.41	23/104	12/109	32/122	13/112	3/ 96
	Philippines	79.17	66.67	58.33	79.31	74.32	10/104	35/109	65/122	6/112	12/ 96

Table 3 continued

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Africa	Botswana	68.18	55.00	65.52	67.65	75.00	38/104	69/109	43/122	30/112	8/ 96
	Burkina Faso	65.38	71.88	55.77	56.45	54.84	42/104	23/109	72/122	62/112	58/ 96
	Democratic Republic of Congo (DRC)	80.95	70.45	68.97	69.12	70.00	7/104	26/109	34/122	26/112	23/ 96
	Eritrea*	71.43	64.29	53.13	62.50	**	32/104	45/109	78/122	40/112	**
	Ethiopia*	60.00	60.00	50.00	50.00	**	57/104	56/109	85/122	80/112	**
	Ghana	71.43	72.73	62.50	67.07	57.61	33/104	22/109	51/122	32/112	47/ 96
	Ivory Coast*	80.00	71.43	59.52	59.52	**	9/104	24/109	60/122	50/112	**
	Kenya	40.91	33.33	23.08	53.85	**	90/104	106/109	120/122	71/112	**
	Mali	71.88	64.29	63.79	53.03	47.50	29/104	45/109	48/122	74/112	71/ 96
	Mozambique*	30.00	50.00	54.17	36.11	**	99/104	78/109	76/122	105/112	**
	Namibia	58.33	62.50	70.37	60.61	61.54	62/104	50/109	31/122	47/112	40/ 96
	Sierra Leone*	42.86	**	36.36	50.00	**	88/104	**	111/122	81/112	**
	South Africa	57.69	62.12	57.89	64.58	56.56	66/104	51/109	67/122	37/112	50/ 96
	South Sudan*	60.00	**	50.00	**	**	58/104	**	87/122	**	**
	Tanzania	56.67	54.35	60.00	55.56	67.11	71/104	71/109	57/122	63/112	32/ 96
Uganda*	50.00	**	41.18	**	**	77/104	**	106/122	**	**	
Zambia	72.22	54.00	75.00	68.97	60.29	27/104	73/109	20/122	28/112	43/ 96	
Zimbabwe	57.69	52.63	56.00	48.28	51.72	67/104	77/109	71/122	85/112	62/ 96	
Argentina	Catamarca	44.44	40.91	75.00	40.48	57.14	85/104	98/109	21/122	99/112	50/ 96
	Chubut	31.25	46.15	59.38	47.50	48.21	97/104	90/109	62/122	88/112	71/ 96
	Jujuy	16.67	54.17	61.54	38.10	58.33	103/104	72/109	56/122	104/112	47/ 96
	La Rioja**	31.25	33.33	45.00	38.24	55.88	98/104	106/109	99/122	103/112	55/ 96
	Mendoza	36.36	40.48	44.12	45.31	50.00	95/104	100/109	102/122	95/112	64/ 96
	Neuquen**	10.00	58.33	54.55	39.29	35.71	104/104	60/109	74/122	102/112	90/ 96
	Salta	60.00	52.94	73.53	59.62	48.53	59/104	76/109	28/122	49/112	67/ 96
	San Juan	57.14	55.88	75.00	58.33	57.32	69/104	68/109	22/122	54/112	50/ 96
	Santa Cruz	50.00	43.75	64.71	58.11	61.76	78/104	93/109	46/122	57/112	40/ 96
Latin America and the Caribbean Basin	Bolivia	53.13	50.00	55.00	56.58	48.89	73/104	78/109	73/122	61/112	67/ 96
	Brazil	60.87	64.71	75.00	66.98	64.75	54/104	44/109	23/122	33/112	35/ 96
	Chile	63.64	77.36	80.36	80.32	75.00	49/104	11/109	6/122	4/112	8/ 96
	Colombia	68.75	68.75	63.89	64.04	71.31	36/104	29/109	47/122	38/112	21/ 96
	Dominican Republic**	30.00	44.44	50.00	45.65	53.85	100/104	92/109	88/122	94/112	60/ 96
	Ecuador	61.11	46.67	60.00	50.96	43.75	53/104	89/109	58/122	77/112	79/ 96
	French Guiana**	58.33	42.86	50.00	25.00	37.50	63/104	95/109	89/122	110/112	88/ 96
	Guatemala**	50.00	38.89	31.82	46.88	44.44	79/104	103/109	115/122	92/112	78/ 96

Table 3 continued

		Score					Rank				
		2016	2015	2014	2013	2012	2016	2015	2014	2013	2012
Latin America and the Caribbean Basin (cont.)	Guyana*	66.67	45.00	63.33	50.00	55.36	40/104	91/109	50/122	82/112	58/ 96
	Honduras*	42.86	36.36	40.91	32.35	29.41	89/104	105/109	107/122	109/112	95/ 96
	Mexico	65.12	67.46	77.97	70.73	72.10	43/104	34/109	12/122	22/112	18/ 96
	Nicaragua	45.83	61.54	59.09	41.67	**	84/104	53/109	64/122	97/112	**
	Panama*	43.75	53.33	56.25	52.50	41.67	87/104	74/109	68/122	76/112	84/ 96
	Peru	76.09	70.90	80.36	72.90	65.20	17/104	25/109	7/122	19/112	35/ 96
	Uruguay*	33.33	21.43	35.71	7.69	**	96/104	109/109	112/122	112/112	**
	Venezuela	46.43	53.13	52.17	40.48	45.71	83/104	75/109	82/122	100/112	75/ 96
Asia	Afghanistan*	50.00	**	**	**	**	80/104	**	**	**	**
	China	68.75	66.67	52.78	62.90	58.57	37/104	35/109	80/122	39/112	45/ 96
	India*	37.50	60.71	56.25	50.00	68.75	94/104	55/109	69/122	83/112	25/ 96
	Kazakhstan*	64.29	77.78	54.55	67.50	66.67	45/104	10/109	75/122	31/112	32/ 96
	Mongolia	63.64	58.82	62.50	59.46	84.29	50/104	59/109	52/122	51/112	1/ 96
	Myanmar*	50.00	70.00	70.83	61.54	**	81/104	27/109	30/122	44/112	**
Europe	Bulgaria	39.29	50.00	33.33	50.00	31.82	92/104	78/109	114/122	84/112	94/ 96
	Finland	77.50	76.79	76.92	70.83	69.51	12/104	15/109	15/122	21/112	23/ 96
	France*	40.00	42.31	50.00	47.37	**	91/104	97/109	91/122	90/112	**
	Greenland	64.29	66.67	60.00	78.57	74.00	46/104	35/109	59/122	8/112	12/ 96
	Greece*	55.56	33.33	30.00	55.00	25.00	72/104	106/109	119/122	66/112	96/ 96
	Hungary*	30.00	**	20.00	**	**	101/104	**	122/122	**	**
	Ireland, Republic of	71.88	75.00	65.91	60.94	46.51	30/104	17/109	42/122	46/112	73/ 96
	Northern Ireland	58.70	**	**	**	**	60/104	**	**	**	**
	Norway	58.33	58.33	52.50	58.33	57.14	64/104	60/109	81/122	55/112	50/ 96
	Poland	62.50	50.00	46.88	57.14	34.62	52/104	78/109	94/122	59/112	91/ 96
	Portugal	57.89	64.29	58.33	47.73	**	65/104	45/109	66/122	86/112	**
	Romania	57.14	61.11	40.91	47.50	42.00	70/104	54/109	108/122	89/112	84/ 96
	Russia*	72.22	75.00	67.86	54.76	65.38	28/104	17/109	40/122	67/112	35/ 96
	Serbia	50.00	50.00	45.45	54.17	65.00	82/104	78/109	96/122	70/112	35/ 96
	Spain	60.53	56.82	44.74	58.33	42.50	55/104	64/109	100/122	56/112	82/ 96
	Sweden	75.00	66.67	68.52	69.05	67.14	21/104	35/109	35/122	27/112	32/ 96
Turkey	64.71	59.09	47.06	70.00	75.00	44/104	58/109	93/122	24/112	8/ 96	

Notes:

* Between 5 and 9 responses

** Not Available

Global Survey Rankings

The top

The top jurisdiction in the world for investment based on the Investment Attractiveness Index is Saskatchewan, which moved up to first from second in 2015 (see table 1). Manitoba moved up into second from 19th in the previous year, after the Canadian province's investment attractiveness score increased by over 10 points. Western Australia dropped to third, after Saskatchewan displaced it as the most attractive jurisdiction in the world. Nevada dropped from 3rd to 4th this year. Rounding out the top ten are Finland, Quebec, Arizona, Sweden, the Republic of Ireland, and Queensland. In addition to Manitoba, Arizona, Sweden, and Queensland were all outside of the top 10 in the previous year.

For the fourth year in a row, the Republic of Ireland had the highest PPI score of 100. Ireland was followed by Saskatchewan in second, which moved up from 4th in the previous year. Along with Ireland and Saskatchewan the top 10 ranked jurisdictions are Sweden, Finland, Nevada, Manitoba, Wyoming, New Brunswick, Western Australia, and Northern Ireland.

All were in the top 10 last year except for Manitoba and Northern Ireland. Manitoba rose in the rankings from 13th in 2015 to rank 6th, while Northern Ireland was included for the first time this year. Displaced from the top 10 were Alberta, which fell in the rankings from 7th in 2015 to 28th in 2016, and Portugal, which fell from 10th to 16th.

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

The bottom

When considering both policy and mineral potential in the Investment Attractiveness Index, the Argentinian province of Jujuy ranks as the least attractive jurisdiction in the world for investment. Jujuy replaced another Argentinian province, La Rioja, as the least attractive jurisdiction in the world. Apart from Jujuy, the bottom 10 jurisdictions in 2016 (beginning with the worst) are Neuquen, Venezuela, Chubut, Afghanistan, La Rioja, Mendoza, India, Zimbabwe, and Mozambique.

The 10 least attractive jurisdictions for investment based on the PPI rankings (starting with the worst) are Venezuela, Afghanistan, Zimbabwe, Mongolia, Philippines, Indonesia, Chubut, South Sudan, Mendoza, and Ecuador. Venezuela, Zimbabwe, and Chubut were all in the bottom 10 last year. Two out of the 10 lowest-rated jurisdictions based on policy were Argentinian provinces. Displaced from the bottom 10 in 2016 were Myanmar, La Rioja, and Neuquen.

Global Results

Canada

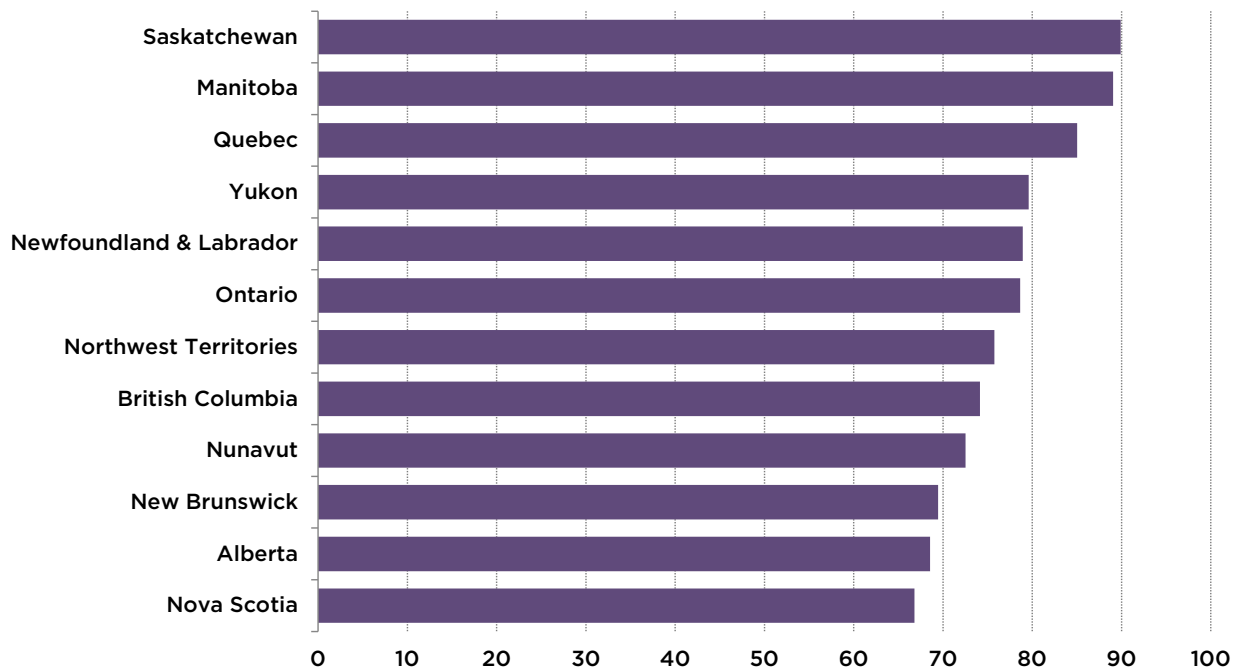
Canada’s median PPI score remained about the same in 2016 as in 2015, and three Canadian jurisdictions— Saskatchewan (2nd), Manitoba (6th) and New Brunswick (8th)—were ranked in the top 10. When considering how Canadian jurisdictions rank on the Investment Attractiveness Index, Canada continues to perform well, although Australia surpassed Canada in 2015 to become the most attractive region in the world for investment. Three Canadian jurisdictions—Saskatchewan (1st), Manitoba (2nd), and Quebec (6th), are all in the top ten.

Focusing on policy alone (and not overall investment attractiveness), after seeing its score fall significantly in 2014, British Columbia’s PPI score experienced a slight rebound in 2016, indicating that some of the uncertainty in the province might have lessened. British Columbia’s PPI rank remained the same this year, coming in at an overall ranking of 41st. The two policy areas that continue to significantly hamper British Columbia are uncertainty concerning disputed land claims and uncertainty over which areas will be protected. The sum of negative responses for these policy factors was 69 percent and 80 percent of respondents respectively. These scores likely reflect the ongoing tensions in the province over land title issues.⁵

Alberta saw its score and rank drop the most amongst Canadian jurisdictions this year, moving down from the 7th spot in 2015 to 28th in this year’s survey. This now places Alberta as the fourth lowest ranked jurisdiction in Canada based solely on policy, after being the second highest the previous year. This decline reflects lower scores on the PPI as a great percentage of respondents for Alberta indicated that the following policy factors were “detering investment”: regulatory duplication and inconsistencies (an increase of 40 percentage points)⁶, uncertainty concerning protected areas (+30

5 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 are available at fraserinstitute.org.

6 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 2015 to 2016 (i.e., the change in percentage points).

Figure 6: Investment Attractiveness Index—Canada

points), and uncertainty regarding the administration, interpretation, or enforcement of existing regulations (+21 points), among others.

Two Canadian territories—Northwest Territories and Yukon—saw both their scores and ranks improve significantly. The Northwest Territories experienced the largest improvement in its PPI score of any of Canada’s provinces or territories. The almost 8.5-point improvement helped the Northwest Territories move up from 58th in 2015 to 48th in 2016. Yukon also experienced an improvement of over eight points in its PPI score, which put it into the 25th spot in this year’s survey. Issues surrounding uncertainty from land claims and infrastructure continue to be the chief deterrents to investment in both territories according to miners.

Manitoba also appeared to be more attractive this year, based on the views of miners. The province’s score improved by just under eight points and Manitoba is now ranked as the 6th most attractive jurisdiction in the world based on policy alone. This also marks the 5th straight year of improvement for Manitoba. This year, miners indicated that there was less uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-15 points) and found the province’s taxation regime to be more favourable (-11 points).

This year we also broke out the responses for British Columbia, Ontario, and Quebec according to whether the respondents were primarily explorers or producers. We did this to compare how the

Table 6: Explorers vs. Producers in British Columbia, Ontario, and Quebec

Areas of Policy	British Columbia		Ontario		Quebec	
	Explorers	Producers	Explorers	Producers	Explorers	Producers
Uncertain Existing Regulations	49.0%	36.0%	33.3%	36.3%	19.2%	20.0%
Uncertain Environmental Regulations	68.0%	68.0%	36.7%	34.8%	29.6%	20.0%
Regulatory Duplication	60.9%	50.0%	36.6%	31.8%	37.0%	31.6%
Legal System	23.5%	12.5%	16.1%	22.7%	34.5%	10.5%
Taxation Regime	23.5%	40.9%	25.8%	35.0%	25.9%	31.3%
Disputed Land Claims	72.0%	60.8%	53.3%	52.3%	25.9%	17.6%
Protected Areas	82.0%	72.7%	56.6%	38.1%	40.7%	23.5%
Infrastructure	24.5%	33.4%	23.3%	31.8%	25.9%	11.1%
Socioeconomic Agreements	42.0%	40.9%	23.4%	30.0%	22.2%	17.6%
Trade Barriers	8.0%	0.0%	3.3%	11.8%	11.5%	6.7%
Political Stability	22.0%	9.1%	13.4%	10.0%	33.3%	11.8%
Labour Regulations	26.0%	25.0%	13.3%	33.4%	26.9%	25.0%
Geological Database	5.9%	4.8%	10.0%	16.7%	15.4%	6.7%
Security	4.0%	9.5%	3.3%	5.3%	4.0%	6.3%
Availability of Skills and Labour	10.1%	0.0%	0.0%	10.5%	3.8%	6.3%

different types of firms that are engaged in exploration view the policy environment. We selected these three provinces for the comparison because all had more than 10 respondents from each firm type. Table 6 displays the sum of the three “deterrent to investment” categories for the three provinces for explorers and producers. There are a few notable differences.

In general, the results suggest that explorers are much more sensitive to the policy environment, and find it much more of a deterrent than do producers. Explorers particularly indicated that disputed land claims and uncertainty surrounding protected areas is more of a deterrent to investing for them than for producers. For example, in British Columbia, 72 percent of explorers indicated that disputed land claims were deterrent to investment, whereas about 60 percent of producers indicated that this was the case. In Ontario and Quebec, explorer and producer perceptions deviated widely—by almost 20 percentage points—in the area of uncertainty surrounding protected areas. Taxation was one area where producers in all three jurisdictions expressed more concern than explorers. The difference between the two types of firms was largest in British Columbia, where just over 40 percent of producers expressed concerns about the taxation regime, compared to just over 23 percent of explorers.

Comments: Canada

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

Alberta

Long delays in getting land use permits closed out; changes to rules/interpretation.

—An exploration company, Vice-president

British Columbia

British Columbia has too many conditions and too much red tape and stumbling blocks put in front of you when moving forward for permitting applications for mining.

—An exploration company, Company president

Inconsistencies in the application of regulations between regions are an issue in British Columbia.

—An exploration company, Consultant

Policy that requires higher claim payments to maintain claims has resulted in smaller exploration companies exiting and is acting as a deterrent to investment.

—An exploration company, Company president

Extremely long lead times for final mining project approvals and ongoing extreme uncertainty with respect to unsettled first nations land claims in the province.

—An exploration company, Company president

The “guaranteed” two-month turnaround for exploration permit review is a very good policy. This year we were raising money while waiting for a permit and knowing there was relatively hard deadline for a yes or no provided comfort and clarity on timelines. The condensed time frame also helped with community consultation, as everyone worked a bit harder to find time in their schedules to meet and discuss.

—An exploration company, Company president

Manitoba

Unstated regulations or requirements for permitting that only come up during the permitting process and are not clearly disclosed in advance are a deterrent to investment in the province.

—An exploration company, Vice-president

Northwest Territories

Overlapping and conflicting regulatory groups/levels of government; internal conflict between government departments; delays of years and years to close out land use or water permits; large delays in granting of permits and conflicting requirements; lack of transparency in permitting and enforcement all act as deterrents to investment in the Northwest Territories.

—An exploration company, Vice-president

The inability of the government of Northwest Territories to adopt/agree on major infrastructure such as connecting to the southern power grid or building a road into the Slave Geological Region, either of which would greatly reduce the costs of exploration, deters investment in the territory. Power would also reduce the cost of living and attract employees.

—An exploration company, Vice-president

Nunavut

Multiple permitting requirements; large delays in being granted access/water permits; granting of permits that contain conditions which essentially nullify the permit (e.g., ice drilling in the spring that is then blocked by caribou constraints); currently delays of 5 years or more to close out land use permits (both Aboriginal Affairs and Northern Development Canada and the Regional Inuit Association) where the appropriate and complete paperwork has been fully filed are all issues deterring investment in Nunavut.

—An exploration company, Vice-president

Ontario

Mining Act amendments, the switch to map staking, a new requirement for exploration permits, etc. are deterrents to investment in the province.

—A producer company with more than US\$50M, Vice-president

Building a road or rail to the Ring of Fire would help to encourage investment in the province.

—A producer company with more than US\$50M, Company president

Changes to the Ontario Mining Act that allow a company to be a “good corporate citizen” and clean up (or at least partially clean up) potential environmental problems (old fuel caches, camps, debris, etc.) left behind by others without assuming

liability or responsibility for those sites is a positive step. Other jurisdictions should take note of this.

—An exploration company, Vice-president

Quebec

The uranium moratorium has cost the province investments.

—An exploration company, Company president

Saskatchewan

Saskatchewan promotes itself as having a progressive and easily followed permitting process, but when you get right into it, things are not quite so straightforward, both in the process and the related “consultation” requirements with the various native groups.

—An exploration company, Vice-president

In Saskatchewan the policy of staged and set time periods for getting permits is the one that the entire country should adopt.

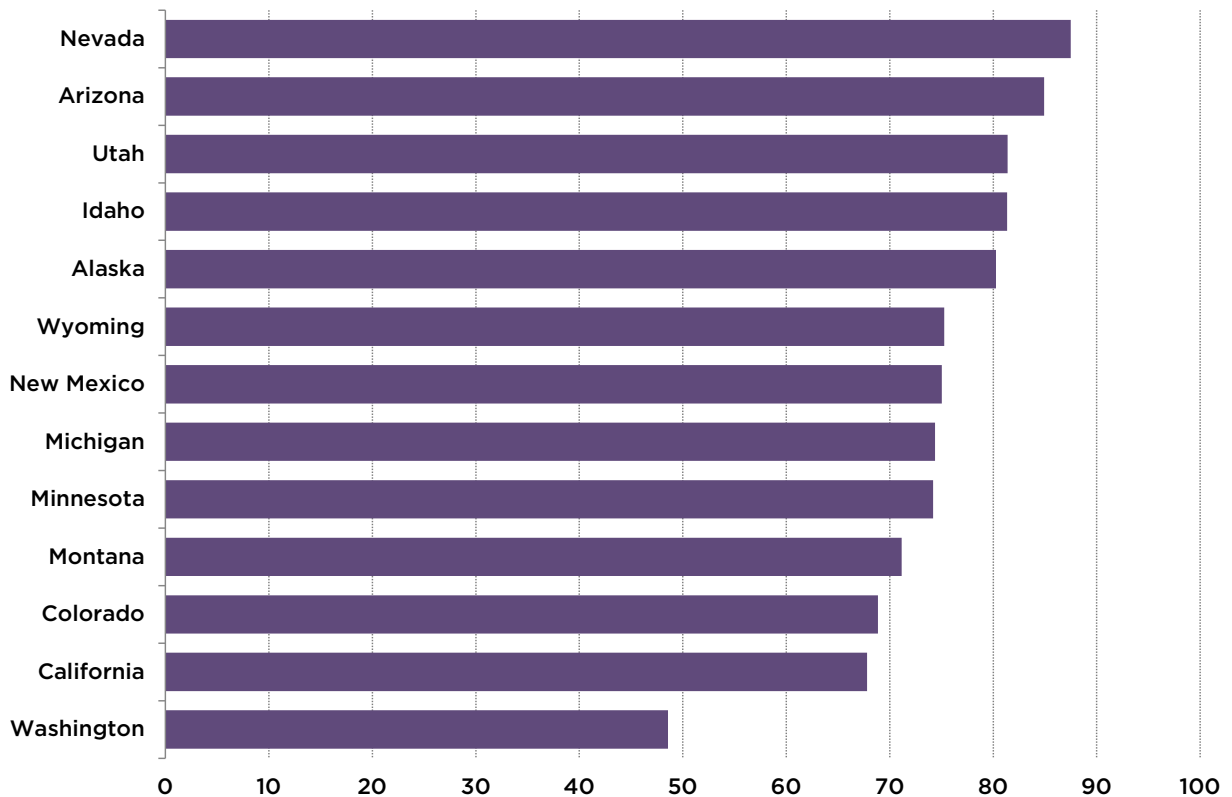
—An exploration company, Company president

The United States

The United States’ median investment attractiveness score improved slightly this year. The most attractive state to pursue exploration investment in, based on policy factors and mineral potential, is Nevada, which this year ranked as the fourth most attractive jurisdiction in the world.

Based on the region’s median investment attractiveness score, the United States is now the third most attractive region in the world for investment, only slightly behind Canada and Australia. The median PPI score for the United States increased again in 2016. The state with the most attractive policy environment alone is Nevada, which ranked 5th in the world behind the Republic of Ireland, Saskatchewan, Sweden, and Finland. Wyoming (7th) was the only other American state in the top 10.

Idaho and New Mexico were the two US jurisdictions that saw the greatest improvement in their PPI scores. The three areas where Idaho experienced the most improvement were socioeconomic agreements and the geological database (both -10 points), and uncertainty concerning protected areas (-4 points). Survey respondents saw New Mexico as improving in its political stability (-15 points), uncertainty concerning environmental regulations (-14 points), and the availability of labour and skills (-8 points).

Figure 7: Investment Attractiveness Index—United States

The score and ranking for Washington State decreased the most amongst US states in 2016. Washington's PPI ranking dropped from 40/109 last year to 67/104 in 2016. Washington's survey ratings declined most significantly for uncertainty regarding the administration, interpretation, or enforcement of existing regulations (+25 points), uncertainty concerning environmental regulations (+24 points), and taxation regime (+24 points).

California, the least attractive policy jurisdiction in the US, moved further down in the international rankings in 2016, falling to a rank of 74th, compared to a rank of 59th in 2015. This year, miners expressed greater concerns in the areas of labour regulations (+26 points), the state's taxation regime (+26 points), and uncertainty concerning protected areas (+23 points).

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

Availability of the Large Mine Permitting Team to provide guidance helps attract investment to Alaska.

—An exploration company, Manager

Alaska has developed a Geologic Materials Center that now houses core, rock samples, and other data from many decades of work by the United States Geological Survey, Alaska Division of Geological and Geophysical Surveys, and dozens of private companies. This Geologic Materials Center facility has significant excess capacity to house such materials for the future. Explorers can request that specific core and rock samples are assembled into a secure room at the Geologic Materials Center where the explorer will have private access to the materials for as long as he wishes.

—A consulting company, Company president

California

Exploration/mining property was surrounded by a protected area that gradually collapsed right to the borders of the property essentially killing any potential expansion.

—An exploration company, Chief Exploration Officer

Drilling permits are difficult, United States Bureau of Land Management and state of California overlap. Surface mining in California is discouraged.

—An exploration company, Company president

Michigan

State mineral taxation system was simplified in cooperative discussions with industry representatives.

—An exploration company, Other senior management

Minnesota

The governor of Minnesota cancelled mineral permits before a permit was applied for.

—An exploration company, Company president

Montana

Montana has banned the use of cyanide.

—A producer company with less than US\$50M, Company president

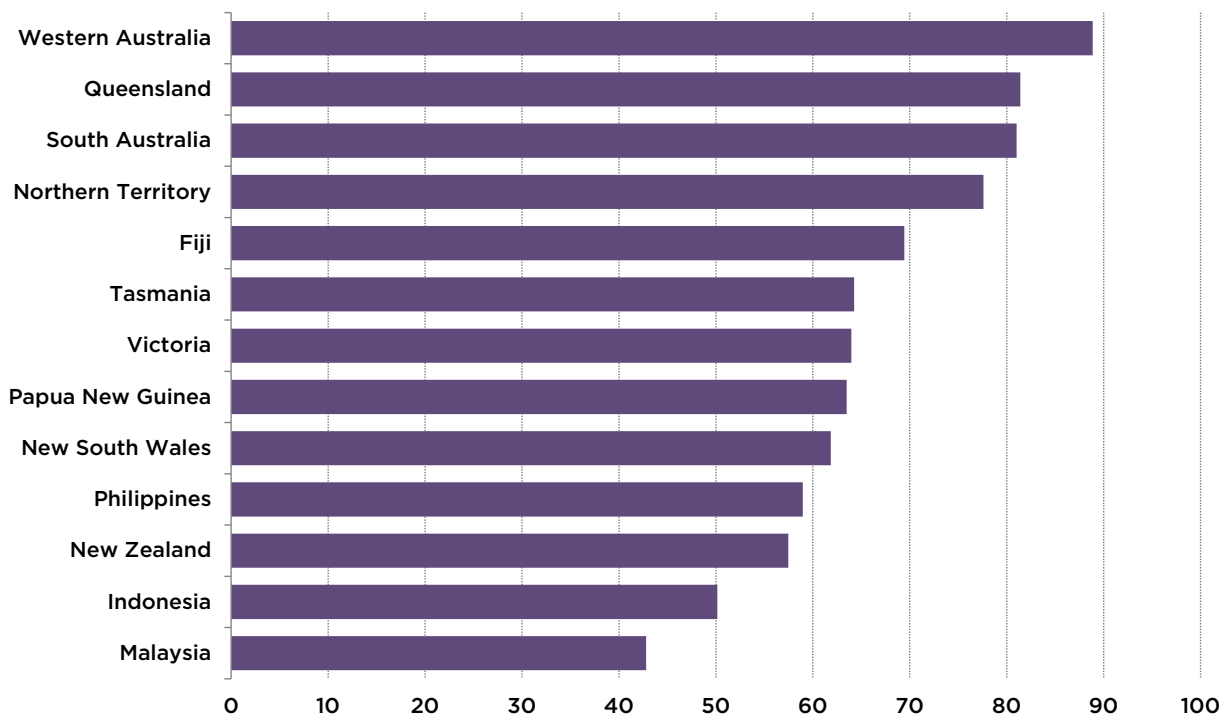
Utah

Working with the different levels of government in Utah is quick and efficient.
—An exploration company, Founder

Australia and Oceania

Australia continues to be a very attractive place to invest in mining. The region as a whole has surpassed Canada and the United States as the most attractive region in the world for investment when both policy and mineral potential are considered. Western Australia was rated to be the most attractive jurisdiction in the region and the third most attractive jurisdiction in the world this year based on its Investment Attractiveness score. Queensland (10th) was also in the top 10 most attractive jurisdictions in which to invest. Only Western Australia appeared in the global top 10 on the PPI, coming in at 9th.

Figure 8: Investment Attractiveness Index—Australia and Oceania



Two Australian jurisdictions—New South Wales and Queensland—experienced declines in their PPI scores this year. New South Wales saw a large reduction in its score and rank, moving down to 66/104 this year from 51/109 last year as more respondents rated socioeconomic agreements/community development conditions (+22 points), labour regulations (+14 points), and the legal system (+13 points) as discouraging to investment. This is the fifth consecutive year for New South Wales to experience a decline in its rank. Queensland's ratings also declined this year, but slightly. Its policy ranking decreased from 32nd in 2015 to 36th in 2016, reflecting increasing concern over the legal system (+18 points) and socioeconomic agreements/community development conditions (+17 points). While Queensland's PPI score decreased, its investment attractiveness score increased this year, moving the state up from 16th in 2015 to 10th in 2016. The increase is driven by a substantial improvement in miners' views of Queensland's geology. In fact, this year Queensland is rated as having the 4th most attractive geology in the world.

Oceania continues to have a number of jurisdictions with relatively unattractive investment environments. Two jurisdictions in the region—Indonesia (99th) and the Philippines (100th)—ranked in the bottom 10 of all jurisdictions included in the survey this year based on their PPI scores. While many of Oceania's jurisdictions struggle when only policy is considered, some, like the Philippines, perform much better when mineral potential is included, indicating that the resource base is the driver behind the overall investment ratings for many of the region's jurisdictions. This finding indicates that there is considerable room for improvement in Oceania.

New Zealand continues to be the top performer in the region, although its score and rank were slightly lower this year than last, moving the jurisdiction down from 30th in 2015 to 39th in 2016.

The Philippines experienced the largest deterioration within Oceania on its PPI score this year. Its more than 12-point drop placed the Philippines in the bottom 10 globally, at 100/104. Investors indicated increased concern this year over uncertainty regarding the administration, interpretation, or enforcement of existing regulations (+23 points), uncertainty concerning protected areas (+22 points), uncertainty concerning environmental regulations (+17 points), and uncertainty concerning disputed land claims (also +17 points).

Indonesia also saw a large deterioration of over 10 points in its PPI score, leading to a rank of 99th in the world. This year, a higher percentage of respondents indicated that Indonesia's regulatory duplications and inconsistencies (+20 points), uncertainty concerning protected areas (+16 points), and uncertainty concerning disputed land claims (+15 points), were increasingly deterring 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

The government has instigated a new permitting and regulatory regime for mineral exploration supposedly to streamline and assist explorers. The overall effect has been to slow down and complicate the permitting process.

—An exploration company, Company president

Recent changes in the legislation and regulations in NSW ensure that paperwork has increased over 10-fold—mindless form filling is required and the bureaucrats do not understand any of it and are not trained correctly. There is no response to documents that you lodge—you have to follow up on the phone—when someone deigns to answer. License documents are issued with mistakes.

—A consulting company, Consultant

South Australia

The push to renewable energy without transitional arrangements has led to a power price crisis that is deterring investment in South Australia.

—A producer company with less than US\$50M, Company president

South Australia has a can-do attitude towards exploration and mining. The state has an objective to make SA a world producer in copper and uranium.

—A consulting company, Consultant

Western Australia

Western Australia has fast tracking and real-time monitoring of applications.

—An exploration company, Vice-president

Indonesia

Requirement to process ore in-country and to divest 50% of project within 10 years of commencement of operation is a major deterrent to investment in Indonesia.

—A producer company with more than US\$50M, Manager

Government insistence on making metals from all minerals has closed numerous bauxite, nickel, and base metal operations and prevented development of many more.

The legislation was retrospective and no compensation was paid.

—A consulting company, Consultant

Papua New Guinea

The draft Mining Act for PNG has the potential to stop exploration and investment.

—An exploration company, Company president

Changing policies and government decisions on exploration and mining leases are often unpredictable.

—An exploration company, Company president

Philippines

Lack of physical security is a deterrent to investment in the country.

—A producer company with more than US\$50M, Manager

The decision by the new president, Duterte, to ban some open pit mining will hurt the potential for investment in the Philippines.

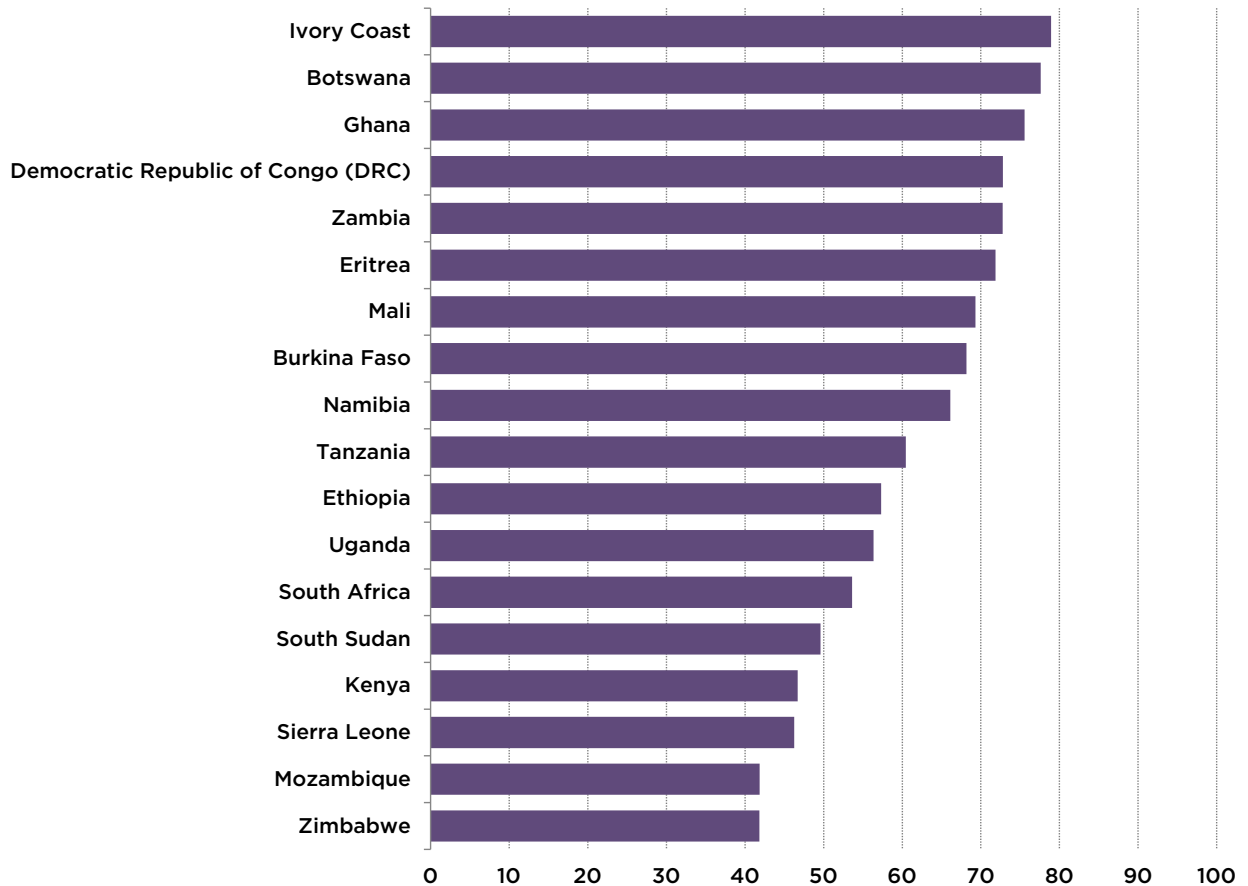
—An exploration company, Company president

Africa

Africa's median score on policy factors (PPI) improved this year. This was also the case for the region's median investment attractiveness score. Africa's overall investment attractiveness now ranks it ahead of the regions of Oceania, Latin America and the Caribbean, Asia, and Argentina.

Two African countries—Zimbabwe (102nd) and South Sudan (97rd),—ranked in the bottom 10 of the survey rankings this year based on policy. Zimbabwe was also amongst the bottom 10 in the previous five years. Zimbabwe and Mozambique were the only two African jurisdictions in the global bottom 10 based on their overall investment attractiveness.

Botswana is again the highest ranked jurisdiction in Africa on policy factors, ranking 12/104 in 2016, after ranking 14/109 in 2015. Botswana's slightly higher score on the PPI reflects decreased concerns over labour regulations (-30 points), the availability of labour and skills (-17 points), and infrastructure (-15 points). This year, four African countries—Democratic Republic of Congo (DRC), Ghana, Ivory Coast, and Zambia—experienced improvements of over 10 points each in their PPI scores. The DRC had the largest improvement in Africa based on miners' perceptions

Figure 9: Investment Attractiveness Index—Africa

of policy. The DRC's improvement of over 17 points enabled the country to move up to 70th from 87th place in the previous year. Investors displayed decreased concern this year over socioeconomic agreements/community development conditions (-40 points), political stability (-34 points), and labour regulations (-29 points). Ghana's more than 12-point improvement and movement from 52nd in 2015 up to 31st this year, places Ghana as the second most attractive jurisdiction in Africa this year based on policy alone. Few investors indicated that political instability (-24 points), the legal system (-23 points), and uncertainty regarding the administration, interpretation, or enforcement of existing regulations (-21 points) were acting as deterrents to investment in the country this year. Zambia (43rd) also saw a large improvement in its PPI score this year, allowing the country to move back into the top 50 countries, after ranking 61st last year. Zambia had large improvements in labour regulations (-29 points) and the availability of labour and skills (-28 points).

Namibia's score and rank deteriorated for the second straight year. In 2014, Namibia was ranked as the 19th most attractive jurisdiction in the world when only policies were considered. The country fell

to 29th in 2015 and dropped again to rank 38th this year. After this year's decline, Namibia no longer ranks as the second most attractive jurisdiction in Africa based on policy. This year miners expressed increased concern over uncertainty regarding the administration, interpretation, or enforcement of existing regulations (+28 points), the taxation regime (+21 points), and trade barriers (+19 points).

Comments: Africa

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

Botswana

The government has permitted the development of a mine within a large game reserve; multiple land use is possible.

—A consulting company, Consultant

Democratic Republic of Congo

There is corruption on every level in the DRC.

—A producer company with more than US\$50M, Manager

The 2012 change in the mining law and a genuine attempt to impose transparency and due legal process in disputes was a positive.

—An exploration company, Company president

Kenya

Unilateral cancellation of licenses, punitive fiscal regime that includes a 10% free carry interest to government as well as a mandated requirement to list 20% on the local security exchange, appropriation of assets on termination of mining licenses, etc., are all deterrents to investment in Kenya.

—A producer company with more than US\$50M, Manager

Kenya has a flawed legislation in relation to exploration and it is extremely complex.

—A producer company with more than US\$50M, Manager

Namibia

A draft policy of local "previously disadvantaged" persons is being circulated. It models itself after South Africa which has clearly failed in its broad based objectives. There is

great danger to all existing or new companies in Namibia.

—A consulting company, Consultant

The Ministry of Mines and Energy has added new conditions to renewals and new mineral licenses. The new conditions are not described in any Act, thus poorly defined and up to the discretion of the Minister. The issue of licenses has thus been delayed severely (months to years).

—An exploration company, Manager

South Africa

Presently before the courts is a decision regarding local ownership in accordance to the existing Black Economic Empowerment (BEE) policy. Once deemed BEE compliant, shareholdings are being sold. Government takes the position that companies must remain BEE compliant by issuing new shares. There is a grave risk to ownership with the government's track record on passing and then modifying laws to achieve their policy goals. The environment in South Africa is not predictable.

—A consulting company, Consultant

Zimbabwe

The contentious 51% local ownership requirement is a deterrent to investment in Zimbabwe.

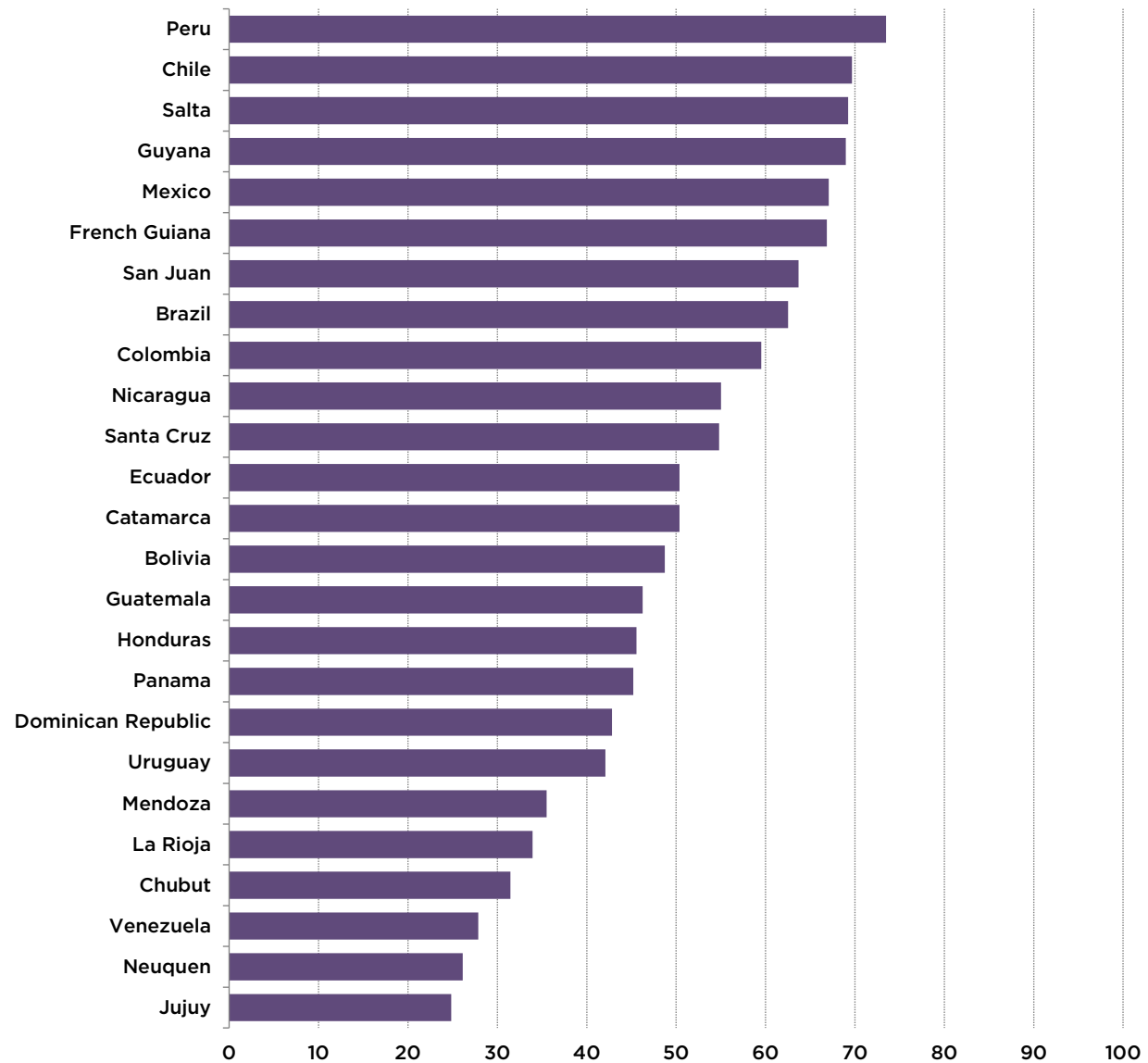
—An exploration company, Manager

Argentina, Latin America, and the Caribbean Basin

Argentina's median investment attractiveness declined by almost seven points this year, a marked decrease over both 2015 and 2014. Argentina continues to rank as the least attractive region in the world for investment. While the median investment attractiveness score deteriorated, the median PPI score for Argentina actually increased in 2016, although Argentina is still the second least attractive region in the world when considering policies only.

Some of Argentina's provinces are also some of the least attractive jurisdictions in the world. Indeed, two Argentinian provinces—Chubut (98th) and Mendoza (96th)—are in the bottom 10 jurisdictions based on PPI scores. When focusing on Investment Attractiveness scores, five Argentinian provinces also rank in the bottom 10, including both the least and second-least

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



attractive jurisdictions in the world. The provinces are Jujuy (104th), Neuquen (103rd), Chubut (101st), La Rioja (99th), and Mendoza (98th).

All but two of the Argentinian provinces saw their PPI scores increase this year. Salta had the second highest increase in its PPI score within Argentina, and the province is now ranked as the most attractive jurisdiction for investment in the country based on perceptions of the policy environment. Salta experienced an over 20-point increase, which resulted in the province’s rank improving from

62/109 in 2015 to 29/104 in 2016, as respondents' ratings showed decreased concern over the taxation regime (-43 points), labour regulations (-33 points), and uncertainty concerning disputed land claims (-33 points). San Juan is another Argentinian jurisdiction which experienced a large increase in its PPI score, moving it up into the top 50 this year, as respondents' ratings improved for its taxation regime (-45 points), the geological database (-42 points), and uncertainty concerning disputed land claims (-39 points). Catamarca, La Rioja, Neuquen, and Santa Cruz all also saw their scores improve by over 10 points.

In Latin America and the Caribbean Basin, the median investment attractiveness score improved slightly this year, placing the region between Oceania and Asia. Venezuela (102nd) was the only Latin American jurisdiction (other than some of the Argentinian provinces discussed above) to appear in the global bottom 10 based on the country's investment attractiveness score. When considering overall investment attractiveness (policy and geology), Peru (28th) surpassed Chile this year as the most attractive jurisdiction in Latin America. Chile (39th) was the second most attractive jurisdiction in the region.

Two Latin American countries were also in the bottom 10 jurisdictions based solely on policy (PPI). These were Venezuela, which occupied the least attractive spot in the world, and Ecuador which was the 10th least attractive jurisdiction in the world based on policy. The median PPI score for Latin America and the Caribbean Basin also improved slightly over 2015. Overall, French Guiana (34th), Chile (35th), Guyana (50th), Mexico (53rd), and Peru (54th) are the most attractive jurisdictions in the region for investment based on policy.

Chile is no longer the top-ranked jurisdiction in the region, after ranking 35th overall on the PPI in 2016, down from 26th in the previous year. Respondents indicated they were increasingly concerned over uncertainty concerning protected areas (+23 points), the legal system (+19 points), and the geological database (+17 points) in Chile. Ecuador experienced one of the largest declines in Latin America and the Caribbean this year, and it pushed Ecuador into the bottom 10. Ecuador saw diminished investor perceptions in a number of areas including infrastructure (+22 points), security (+14 points), and labour availability and skills (+10 points).

Nicaragua had one of the greatest improvements in the region this year, moving from 71/109 in 2015 to 57/104 in 2016, with socioeconomic agreements/community development conditions (-31 points), uncertainty concerning protected areas (-31 points), and regulatory duplication and inconsistencies (-21 points) being the areas where the country's performance improved the most.

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

Government misuses royalties. As a result, the people who have a legitimate right to them blame the industry with a consequent loss of social license.

—A consulting company, Company president

Chubut

The disastrous law against open pit mining, and the even more disastrous proposed legislation to allow it, basically caused a complete write-off of millions spent there and continue to deter investment.

—An exploration company, Company president

La Rioja

La Rioja is the most unpredictable jurisdiction in Argentina. Mining authorities are inconsistent and policies often don't make any sense.

—A consulting company, Company president

Mendoza

Mendoza has instituted a prohibition on open pit mining and cyanide use.

—A producer company with more than US\$50M, Vice-president

Salta

Salta is a jurisdiction with clear policies that are rigorously enforced to everyone's benefit. The outcomes of government decisions are predictable and provide a regime of legal security.

—A consulting company, Company president

Bolivia

Permanent threats to foreign investment from high-level authorities like the president and vice-president of the country act as deterrents to investment in the country.

—A producer company with more than US\$50M, Company president

Brazil

The granting of exploration licenses was suspended in most states since about two years ago. This set back exploration and ultimately affected the whole company.

—A consulting company, Manager

Proposal to change the mining law, royalties, and organization of the mines department has gone nowhere and creates uncertainty that deters investment.
—An exploration company, Vice-president

Guatemala

Political uncertainty in Guatemala is deterring investment.
—A producer company with less than US\$50M, Company president

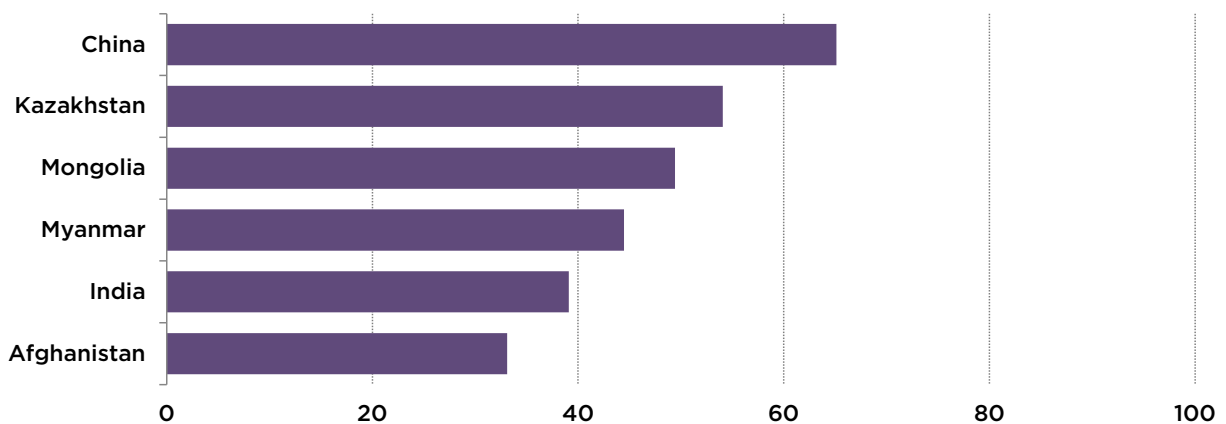
Peru

Situations where the government does not enforce established surface access agreements deter future investment in Peru.
—An exploration company, Chief exploration officer

Asia

Asia's median investment attractiveness deteriorated this year by over seven points. The region overall is now more attractive than only Argentina. China (54th) is the most attractive jurisdiction in the region based on its investment attractiveness rating. China is followed by Kazakhstan, which was rated as the 73rd most attractive jurisdiction in the world based on policy and mineral potential.

Figure 11: Investment Attractiveness Index—Asia



While some Asian jurisdictions perform modestly on their overall investment attractiveness, on policy Asia continues to struggle. Indeed, with Argentina's improvement on this measure in 2016, Asia now has the least attractive policy environment in the world, and it appears that Asia's median policy is trending downwards. Two Asian countries—Afghanistan and Mongolia—rank in the global bottom 10 on policy. Only one Asian jurisdiction—China—ranked above 80th on policy in 2015.

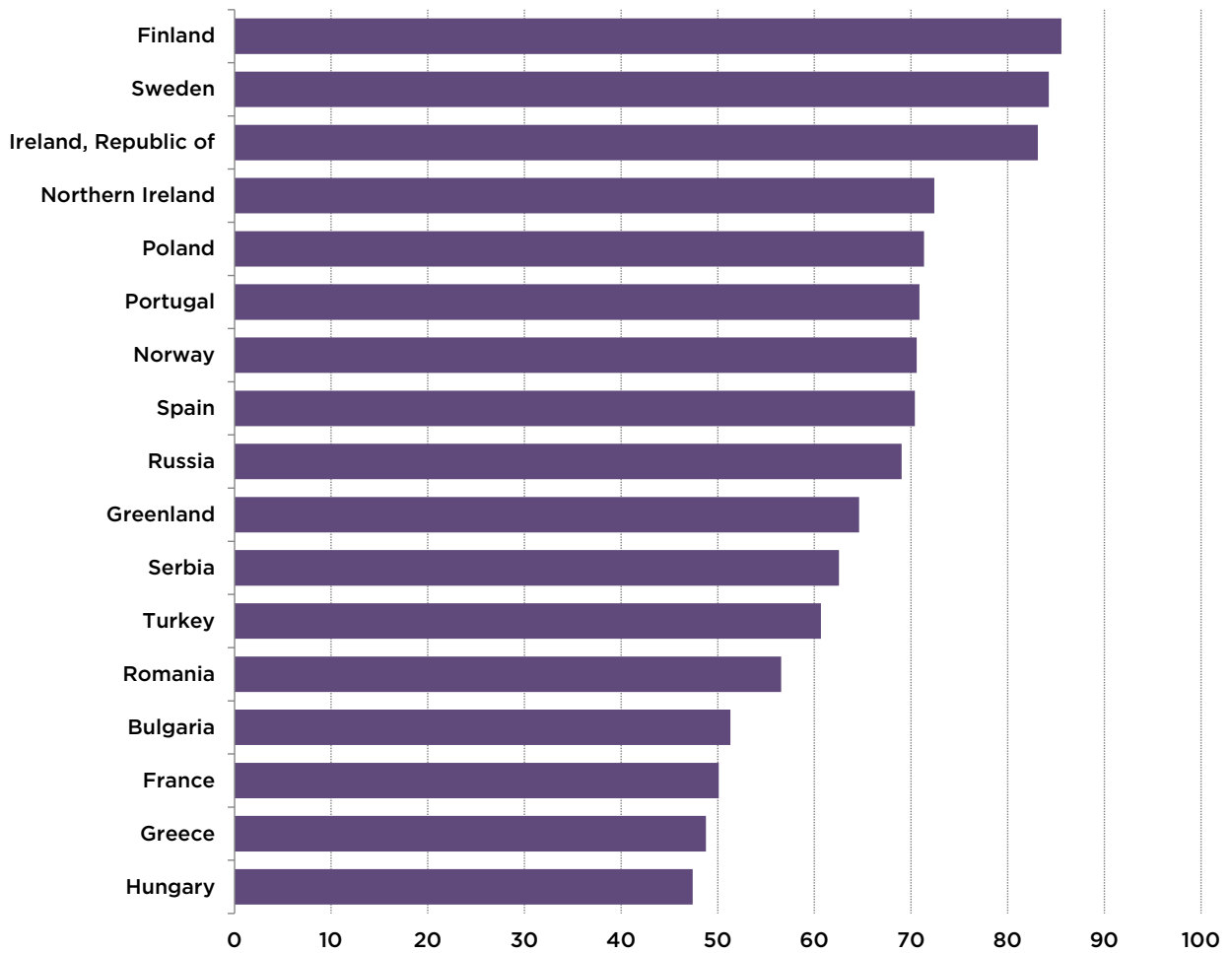
China, the highest ranked jurisdiction in the region, experienced a large improvement in its PPI score this year, moving up by just under 15 points. This change reflected improvement in the areas of infrastructure (-55 points), socioeconomic agreements/community development conditions (-39 points), and the geological database (-33 points). Only one other Asian jurisdiction—Myanmar—improved this year. In this case it was enough to move Myanmar just out of the bottom 10.

Kazakhstan saw the largest decline in PPI ranking in the region, falling from 50/109 in 2015 to 90/104 in 2016 with negative respondent ratings increasing most significantly for the legal system (+48 points), uncertainty concerning environmental regulations (+37 points), and), socioeconomic agreements/community development conditions (+28 points). Mongolia's PPI score also fell in 2015 and its ranking slipped into the bottom 10, reflecting worsening perceptions of respondents for uncertainty concerning disputed land claims (+20 points), uncertainty concerning protected areas (+19 points), and the availability of labour and skills (+11 points).

Europe

Europe's median investment attractiveness score experienced another increase this year. Europe also has some of the most attractive jurisdictions in the world for investment, including three in the global top 10: Finland (5th), Sweden (8th), and the Republic of Ireland (9th). The lowest ranked European jurisdiction on this measure is Hungary at 85th.

A number of European jurisdictions have relatively attractive policy environments in particular. Republic of Ireland (1st), Sweden (3rd), Finland (4th) and Northern Ireland (10th) all ranked in the global top 10 on policy, the highest number of jurisdictions in any one region. This is also the first year that Northern Ireland has been included as its own jurisdiction. Ireland has been the top-ranked jurisdiction based on policy for the past four years after it displaced Finland. Ireland, Finland, and Sweden have all ranked in the PPI top 10 every year for the last five years. Norway (12th) is also a consistent top performer in the survey, appearing in the top 20 in each of the last five years.

Figure 12: Investment Attractiveness Index—Europe

Spain saw its ranking increase by more than 10 spots this year, moving up from 35/109 in 2015 to 24/104 in 2016, with improved ratings from respondents for uncertainty concerning environmental regulations (-22 points), uncertainty concerning the administration, interpretation, or enforcement of existing regulations (-19 points), and the legal system (-19 points). Poland, which ranked 55th in 2012, has improved in four of the last five years, moving up from 33/109 in 2015 to 27/104 this year, with a higher PPI score reflective of improved perceptions of the geological database (-25 points), socioeconomic agreements/community development conditions (-17 points), and trade barriers (-16 points).

Greenland had the greatest decrease in both score and rank in the region, moving down to 63/104 in 2016 from 25/109 in 2015, reflecting poorer respondent ratings for its taxation regime (+43 points), labour regulations (+36 points), and political stability (+28 points). Turkey also experienced a large

decline in both its rank and score this year. Turkey's more than 16-point drop in its PPI score led to a rank of 78/104 in 2016, down from 45/109 in 2015. Investors expressed greater concern over political stability (+31 points), uncertainty concerning the administration, interpretation, or enforcement of existing regulations (+31 points), and the taxation regime (+25 points).

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

[There has been a] delay in renewing an exploration permit for more than four years due to internal government disputes after the promulgation of the new mining code.

—A producer company with more than US\$50M, Vice-president

Republic of Ireland

Clear transparent process for license application and security of tenure with no risk of claim jumping. Excellent open file system with access to old exploration data eliminates duplication of efforts.

—A consulting company, Consultant

The Republic of Ireland is a pragmatic and pro-exploration jurisdiction staffed by individuals with a keen interest in promoting and developing exploration and mining in the country.

—An exploration company, Manager

Poland

Poland has established a regulatory regime for mineral exploration and development, which is precise, has well defined time frames, well defined requirements, and is easy to understand. This is an encouragement to investment.

—A producer company with more than US\$50M, Executive Chairman

Serbia

Serbia introduced a revised mining law in late 2015 which is modelled on the widely accepted best practices of Finland and Sweden. This new law sent a strong signal to the mining community and played a role in our recent significant investment in the country.

—A producer company with more than US\$50M, Other senior management

Sweden

Sweden has a very transparent system, with excellent access to historic exploration and drill core data.

—An exploration company, Manager

Northern Ireland

The Department for the Economy (Minerals Branch) issues licenses but provides no support for any problems. The government is a coalition and historically individual departments (e.g., Environment, Economy) do not work collectively to encourage mining or exploration investment. Indeed many instances of departments working against each other are observed, with the mining/ exploration company a victim of the process.

—An exploration company, Manager

Overview

An analysis of the regional trends in the results of the Investment Attractiveness Index (based on both mineral potential and policy factors) from the 2016 mining survey indicates a stark difference between geographical regions; notably the divide between Australia, Canada, and the United States, and the rest of the world. As figure 13 indicates, as a region, Australia continues to surpass both Canada and the United States this year as the most attractive region in the world for investment, although both Canada and the United States gained ground on Australia in 2016. Only two sets of jurisdictions—Argentina and Asia—saw their relative investment attractiveness decrease. Argentina experienced a 16 percent decline in its regional median score from 2015, while Asia experienced a 13 percent decline. Africa experienced the largest improvement, with an 8 percent increase in its regional median investment attractiveness score. In general, the climate for investment appears to be slightly improving.

The regional trend for policy measures (figure 14) is again dominated by certain regions (Canada, the United States, Australia, and Europe). Europe's presence with the other top performing regions when only policy is considered (not pure mineral potential), indicates that mineral potential is the factor holding Europe back from being in the same category as the three other most attractive regions in the world. Argentina's median policy score experienced a large increase this year, although, as a whole, the South American country is the second least attractive region in the survey. Of the regions included in the survey, Asia now has the least attractive policy environment. Canada continues to have the most attractive policy environment of all regions.

Also of interest is the difference in results between regional median investment attractiveness and PPI. For example, Argentina's median investment attractiveness score declined, even while it performed better as a region on the PPI. This indicates that the region's decline in investment attractiveness is being driven by investors' views of Argentina's pure mineral potential and not necessarily policy.

Explanation of the figures

Figures 15 through 29 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.

Figure 13: Regional Median Investment Attractiveness Scores 2015 and 2016

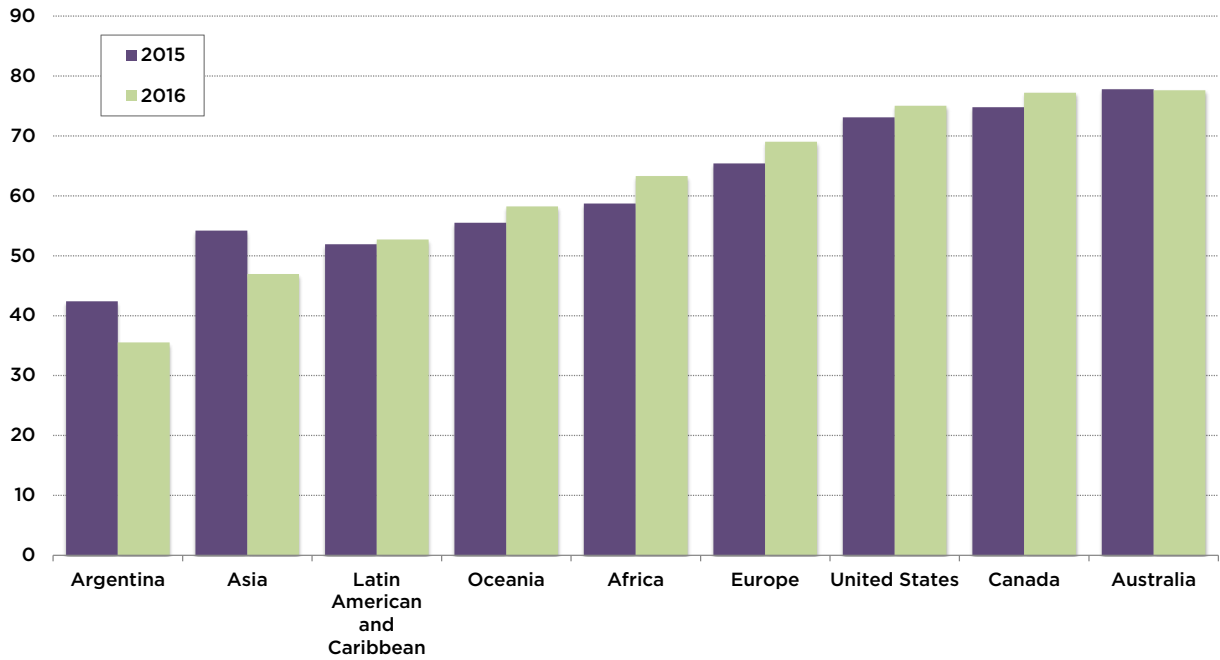


Figure 14: Regional Median Policy Perception Index Scores 2015 and 2016

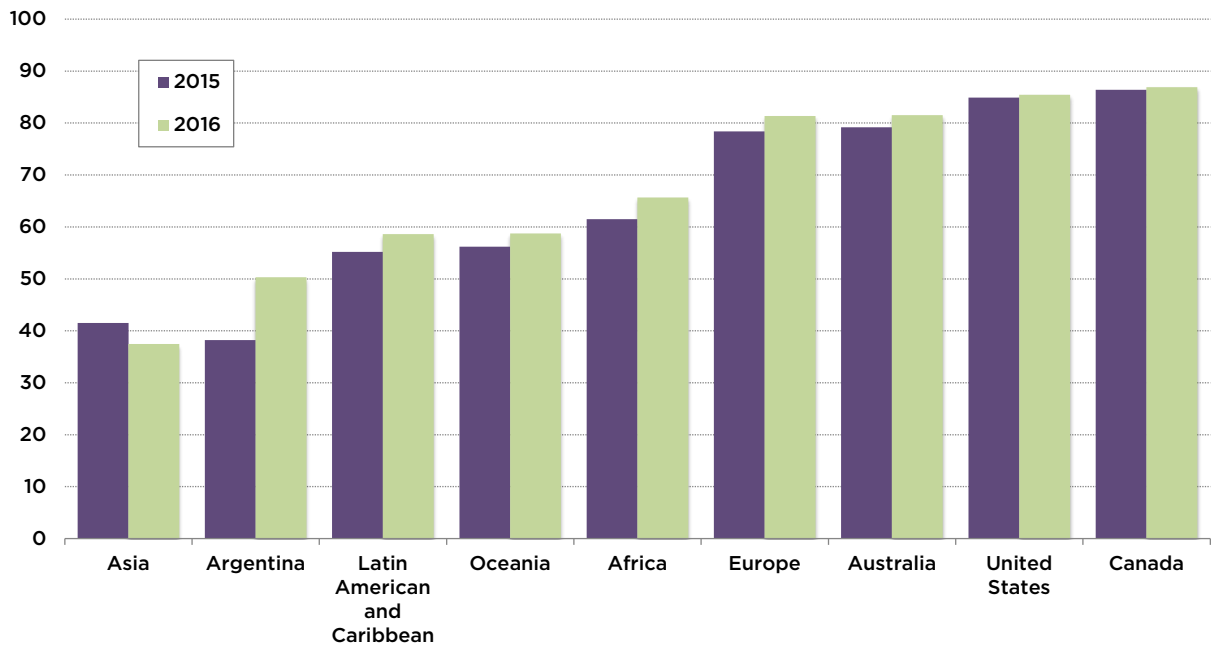


Figure 15: Uncertainty Concerning the Administration, Interpretation and Enforcement of Existing Regulations

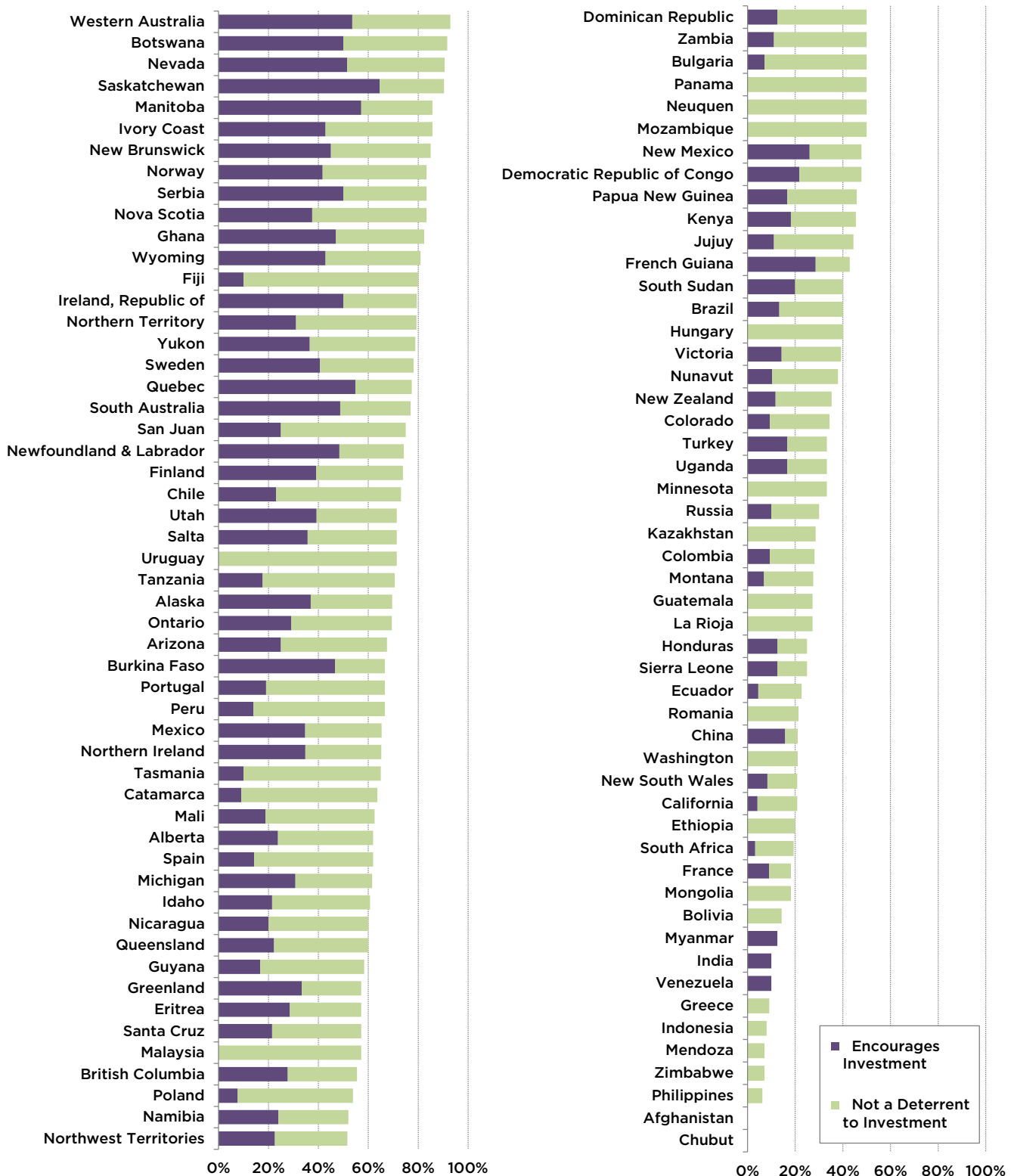


Figure 16: Uncertainty Concerning Environmental Regulations

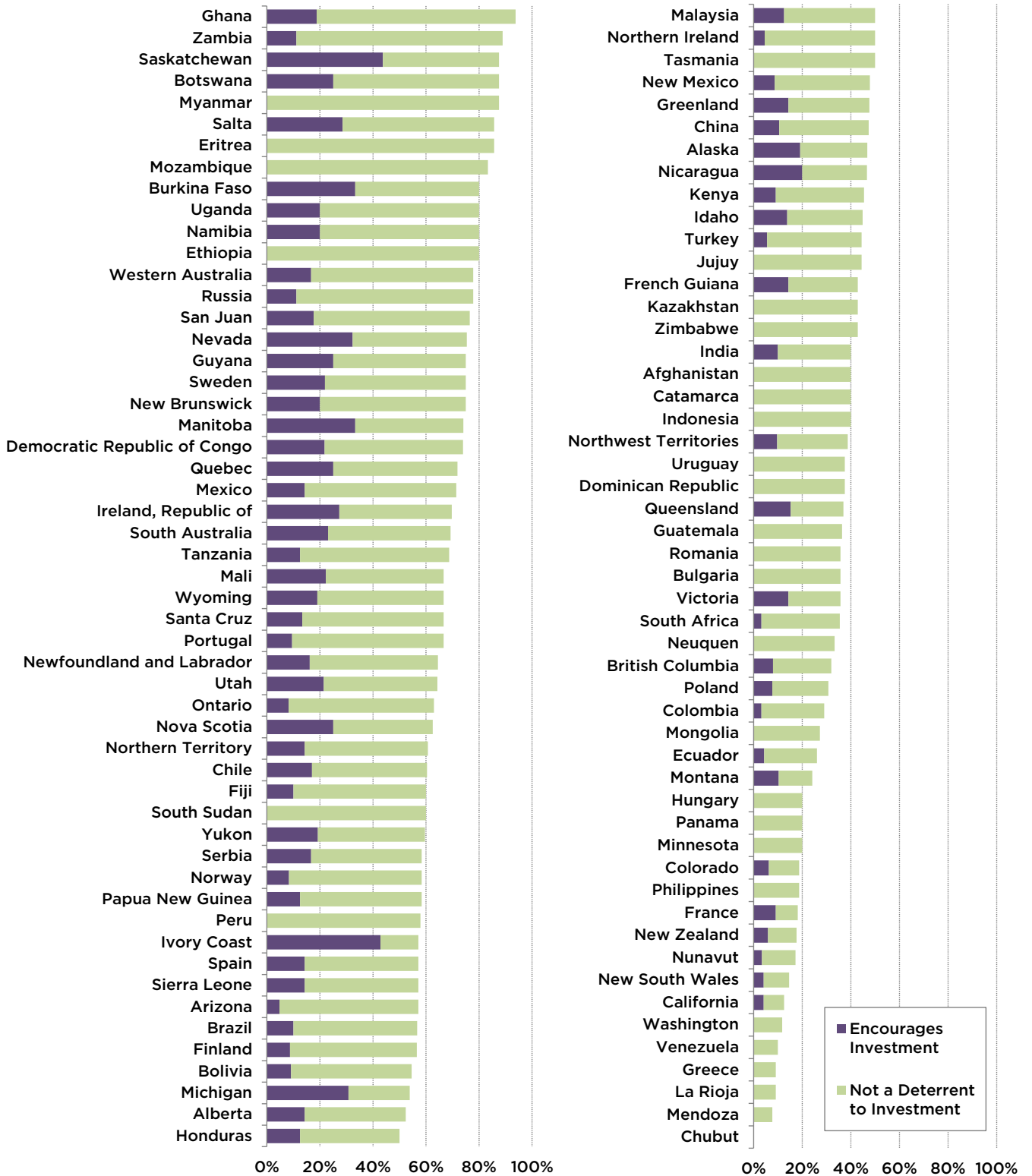


Figure 17: Regulatory Duplication and Inconsistencies

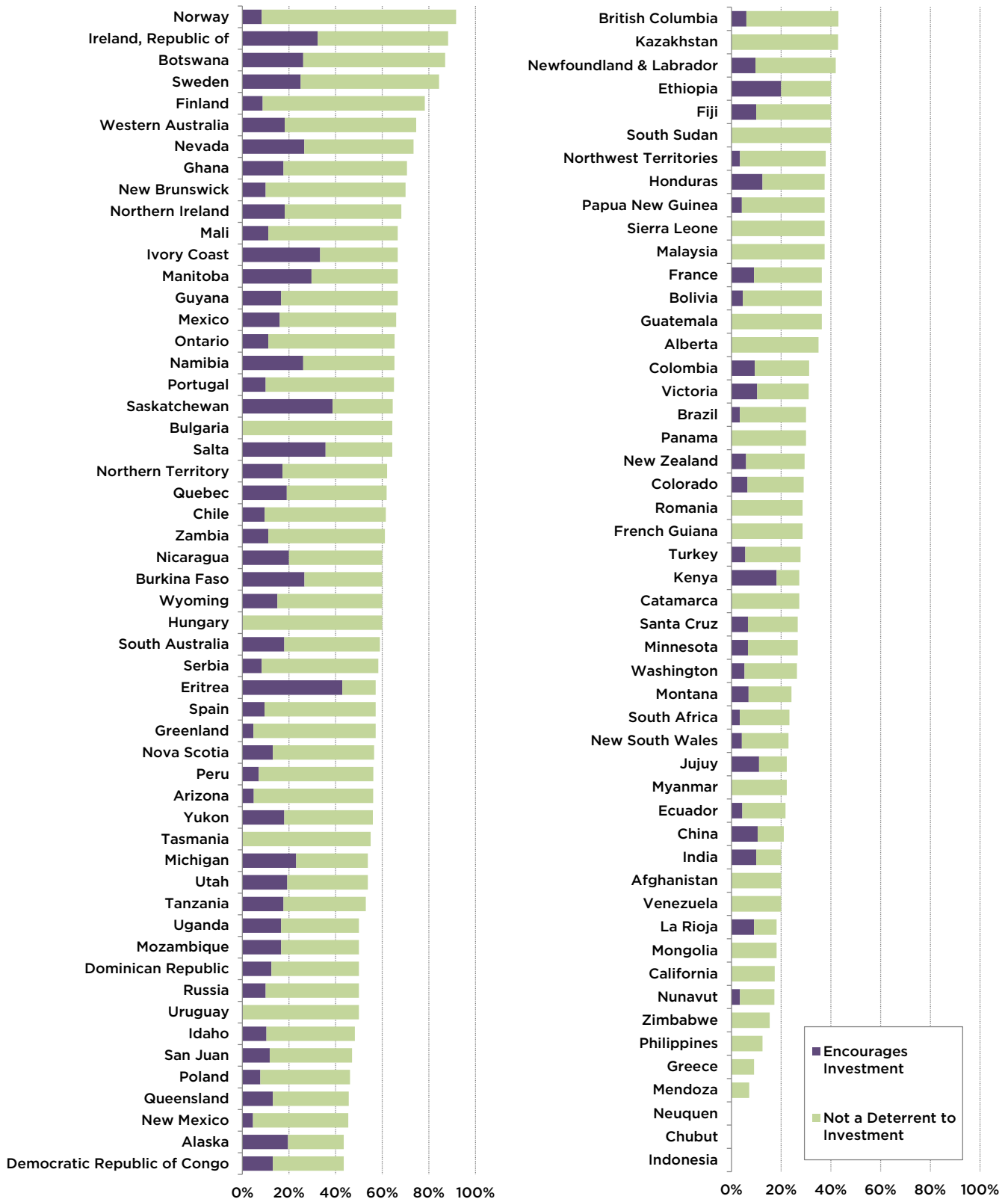


Figure 18: Legal System

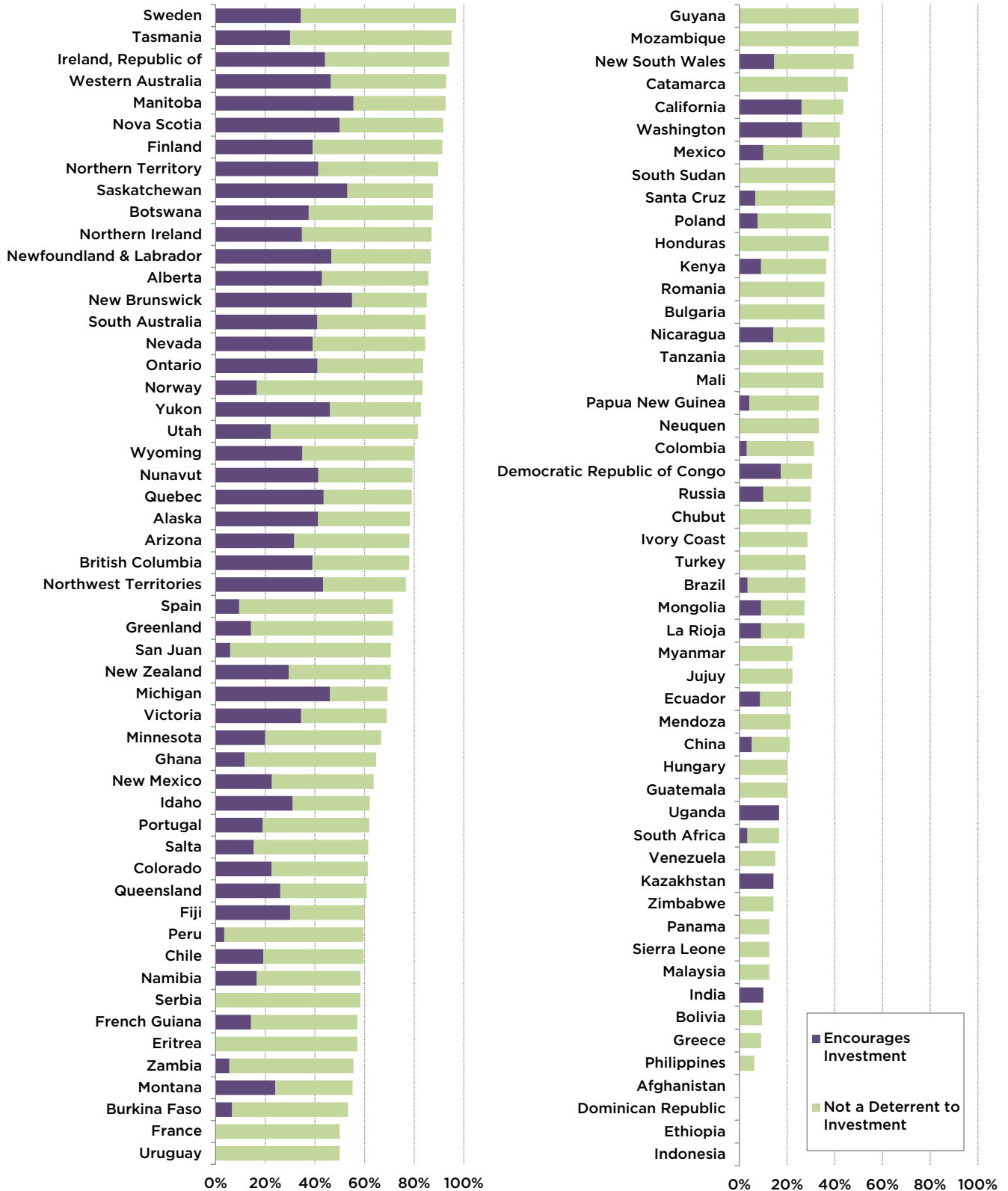


Figure 19: Taxation Regime

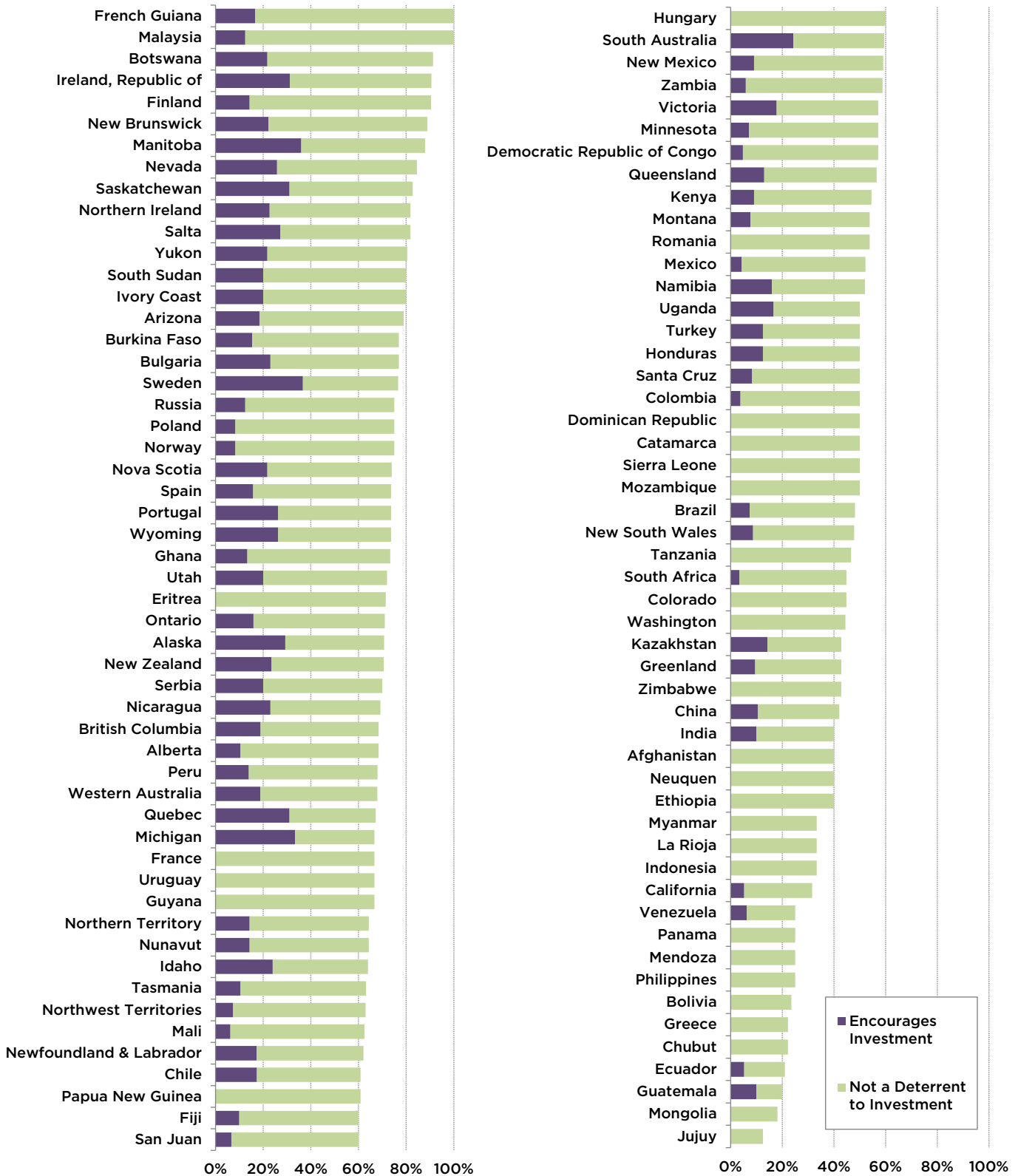


Figure 20: Uncertainty Concerning Disputed Land Claims

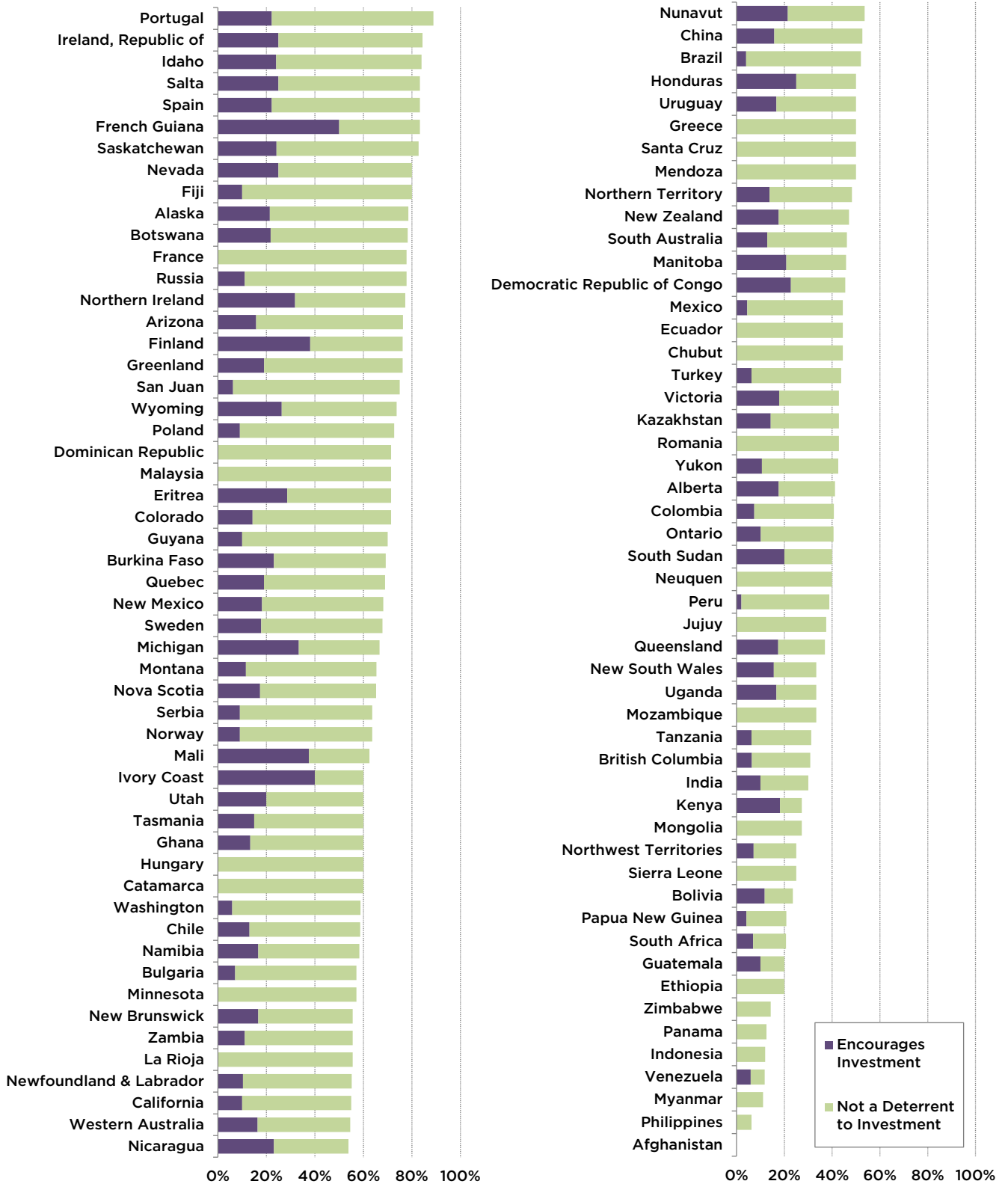


Figure 21: Uncertainty Concerning Protected Areas

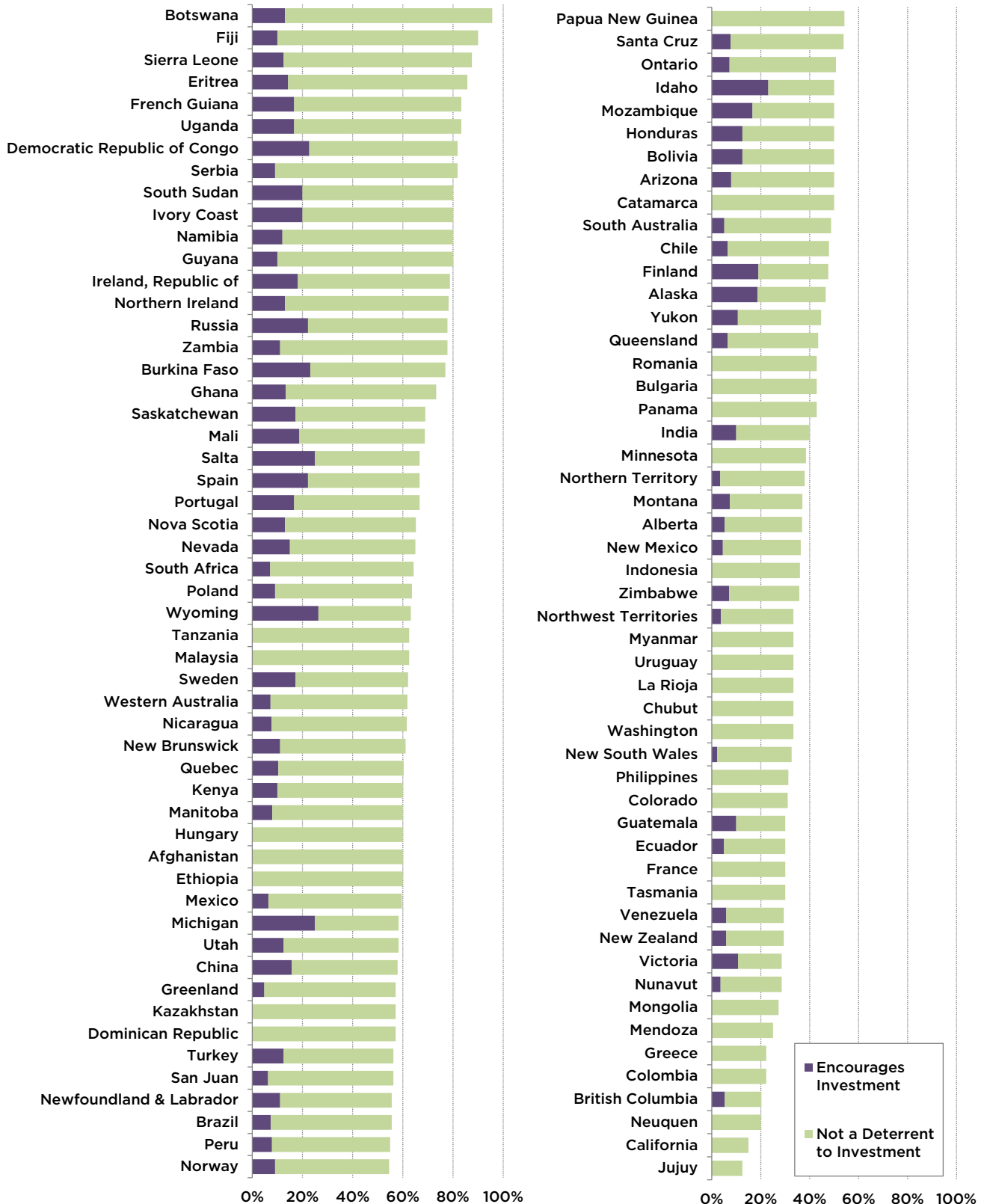


Figure 22: Quality of Infrastructure

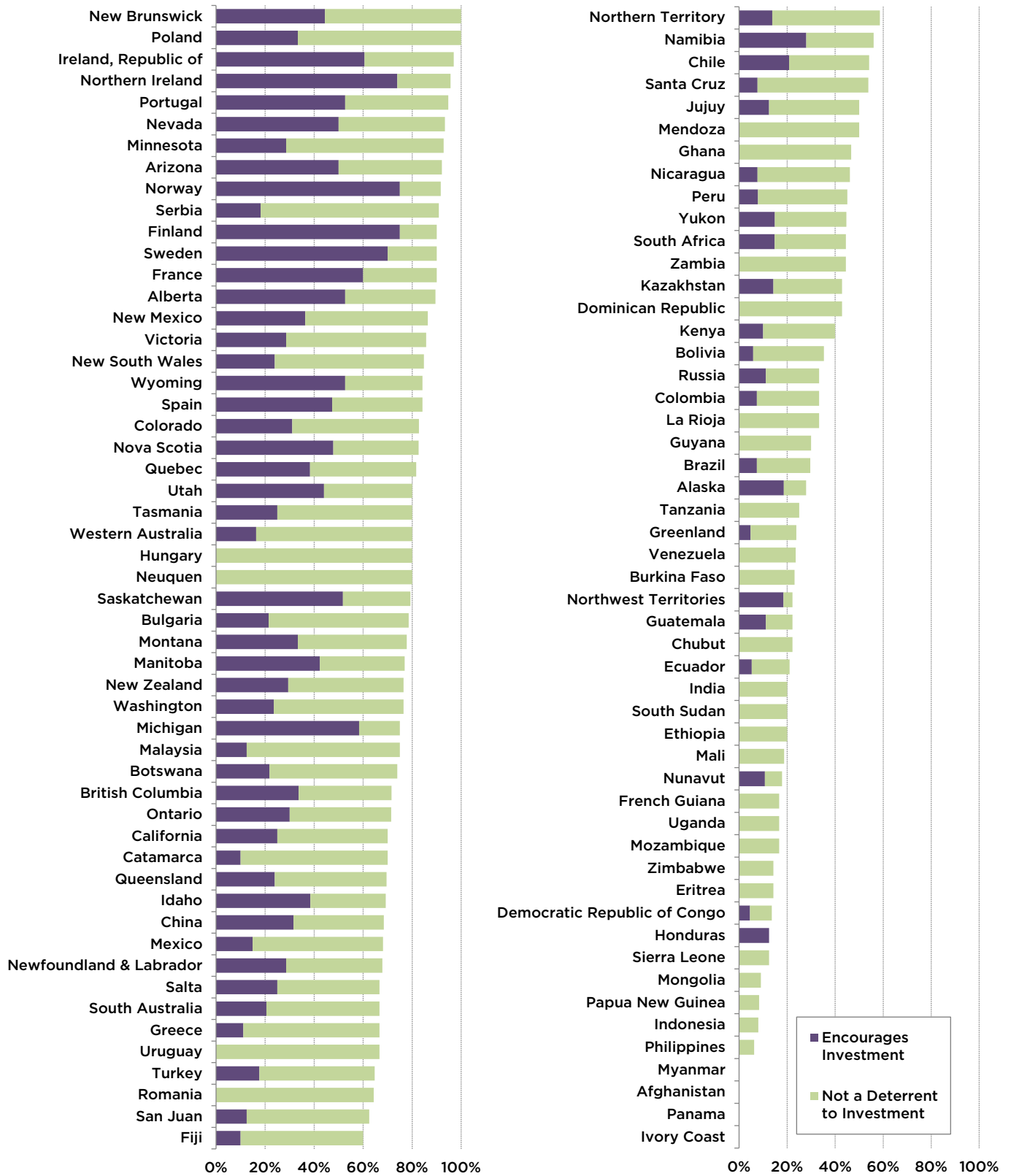


Figure 23: Socioeconomic Agreements/ Community Development Conditions

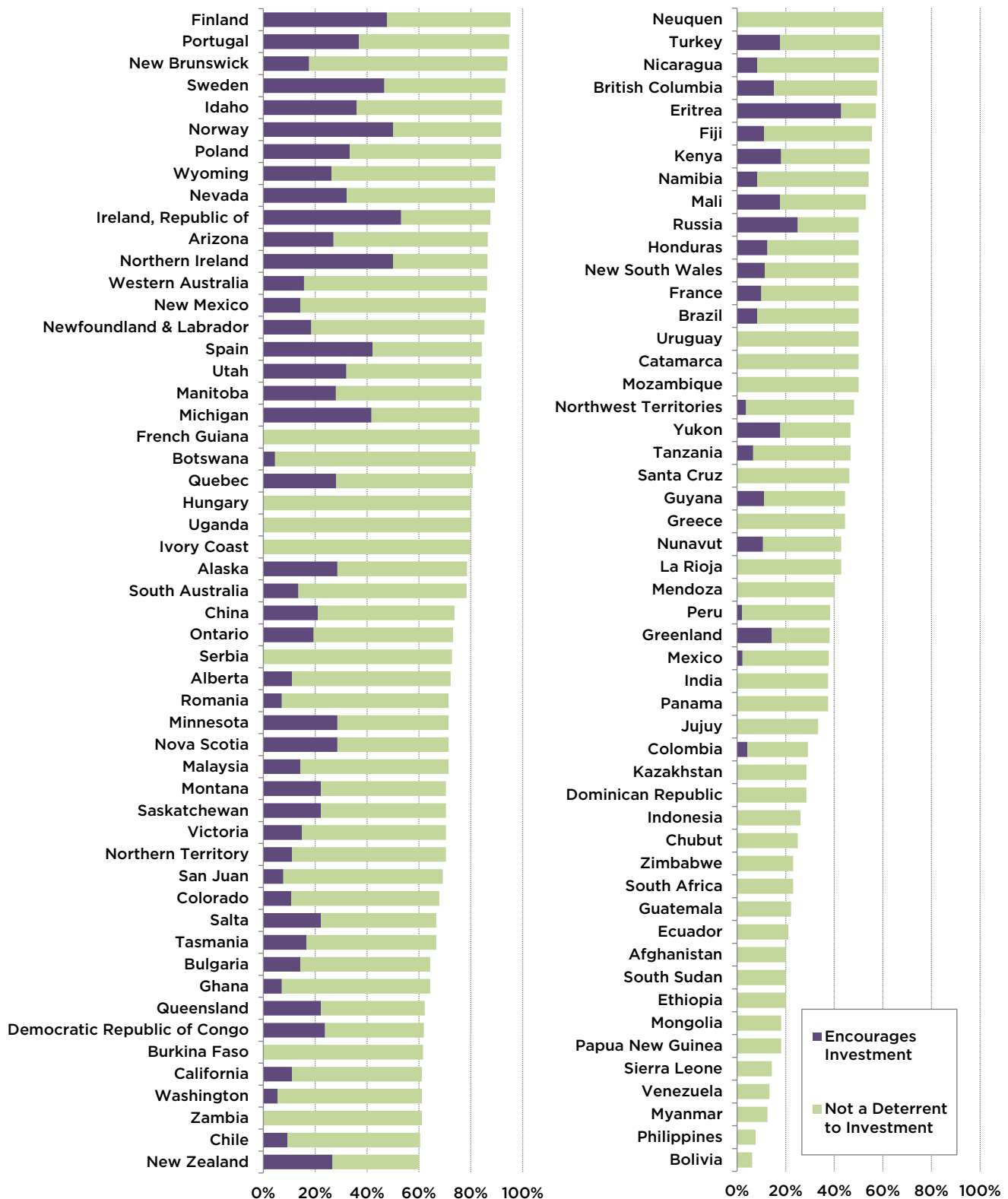


Figure 24: Trade Barriers

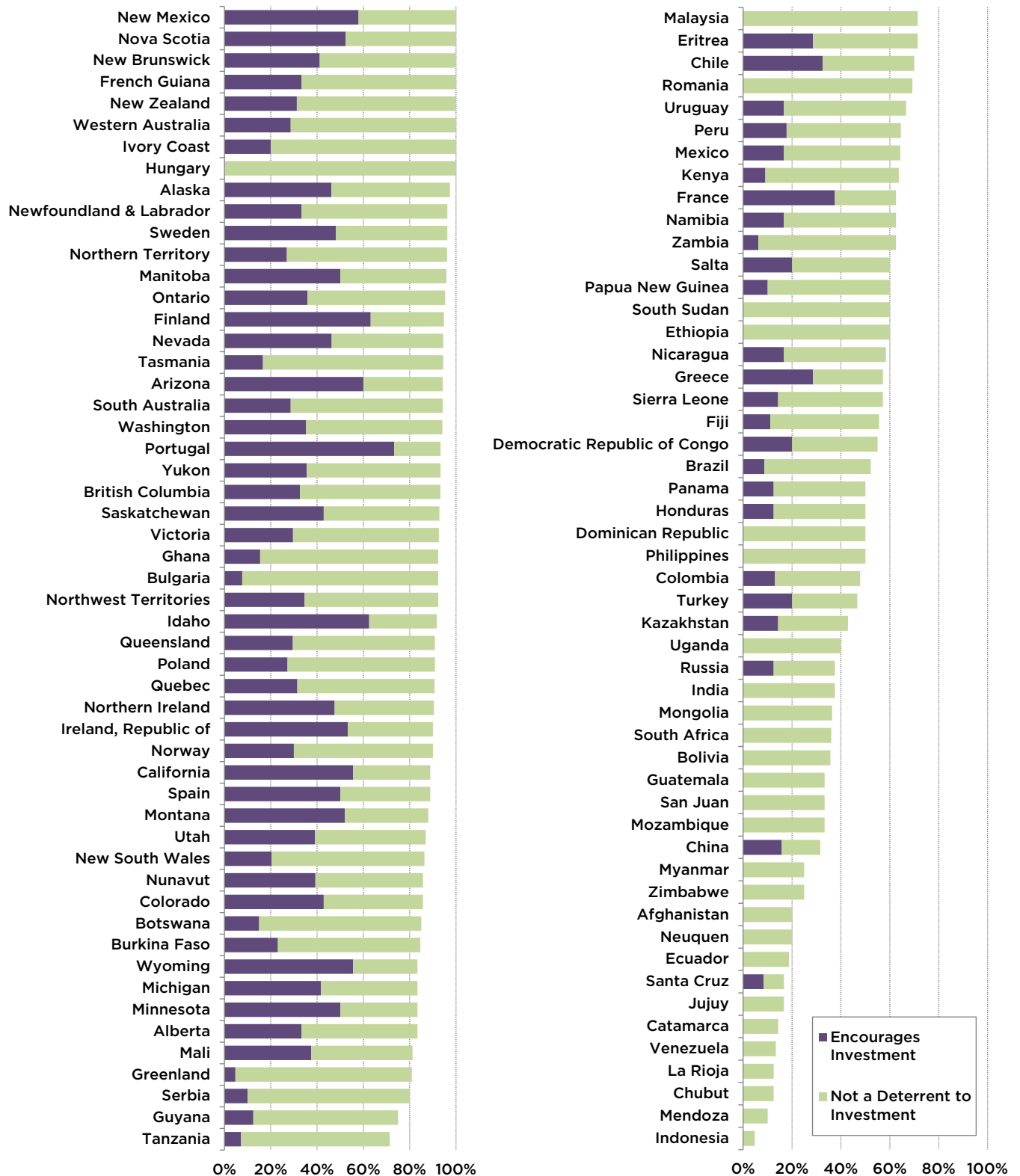


Figure 25: Political Stability

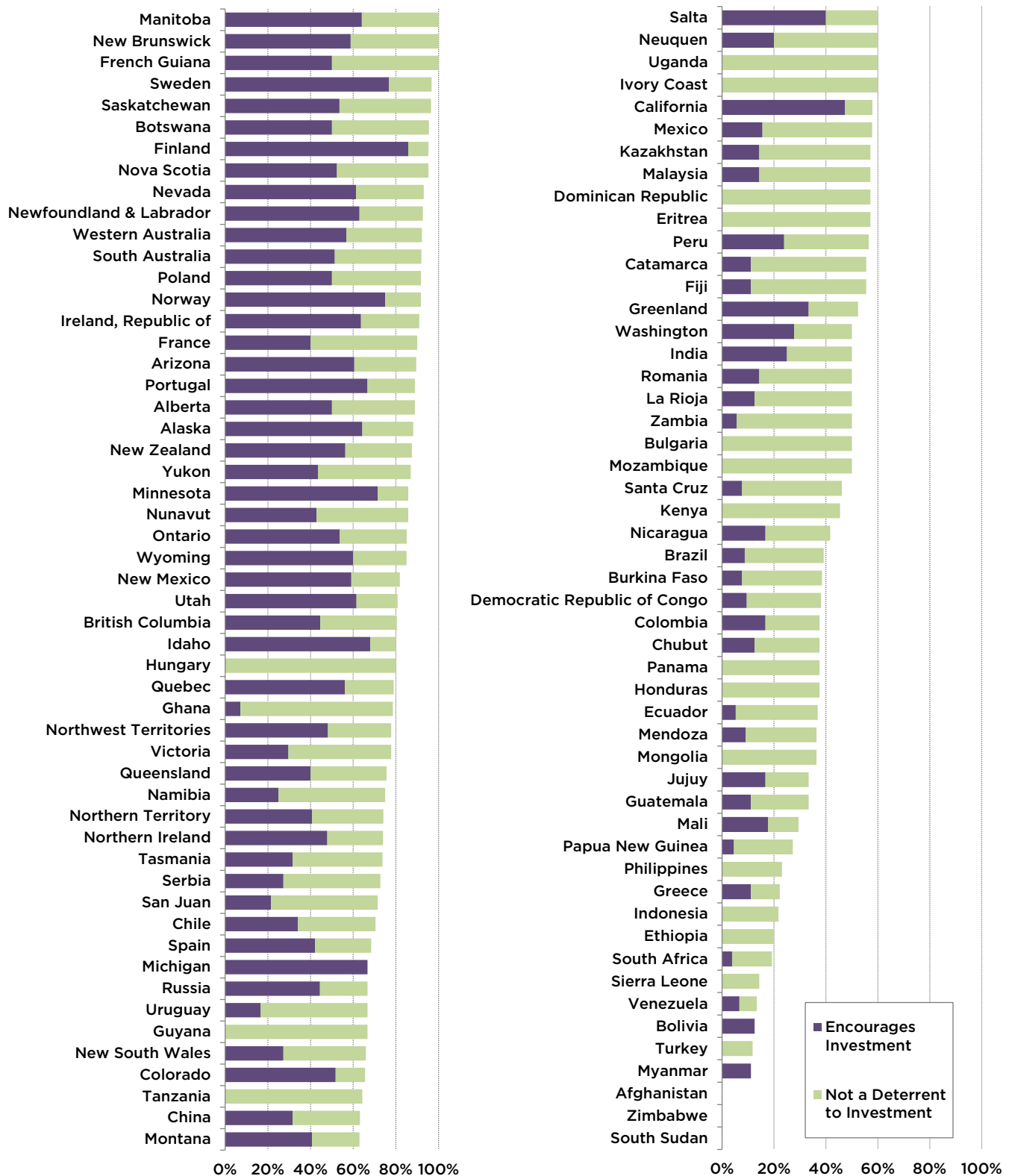


Figure 26: Labor Regulations/Employment Agreements and Labour Militancy/Work Disruptions

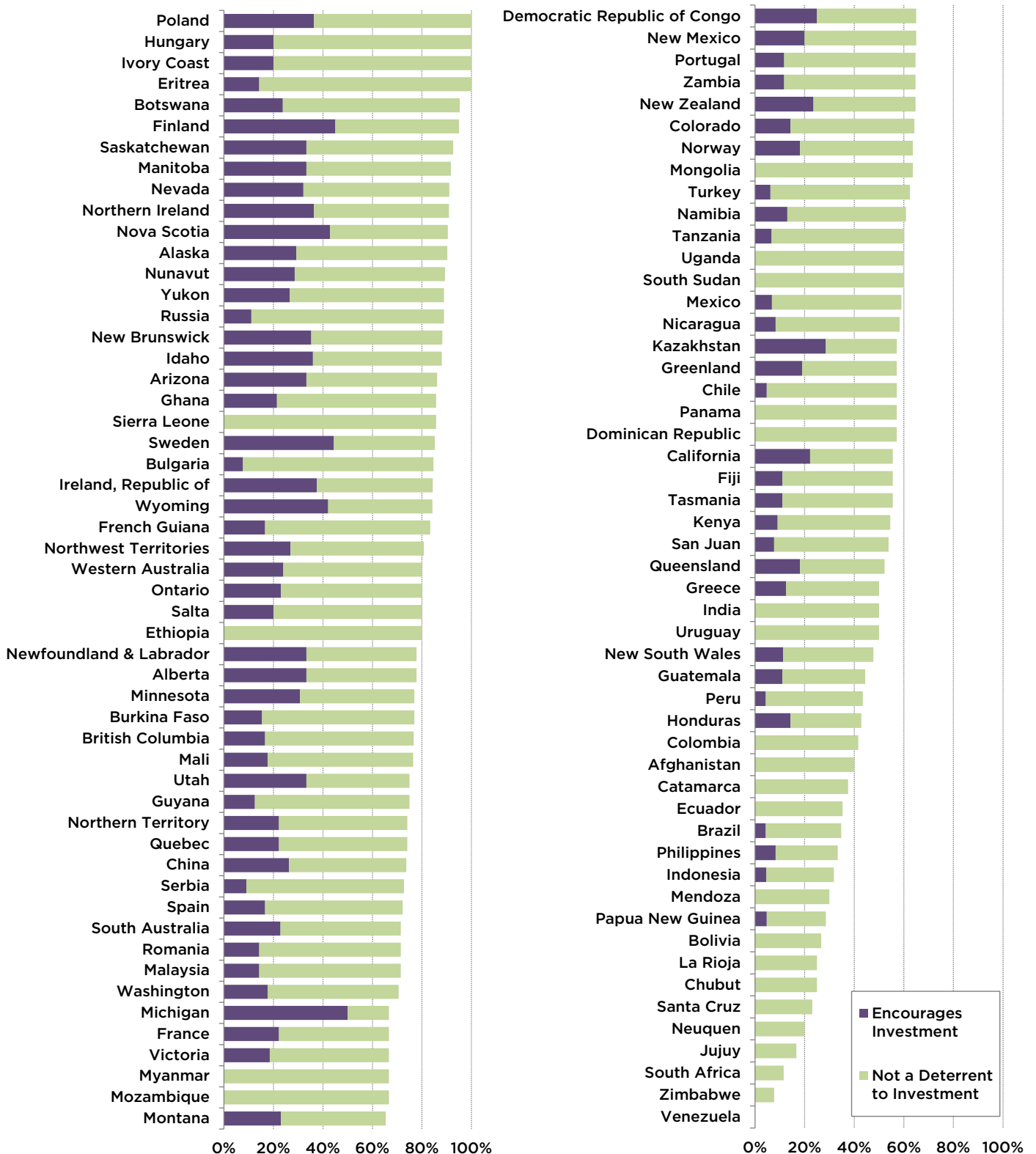


Figure 27: Geological Database

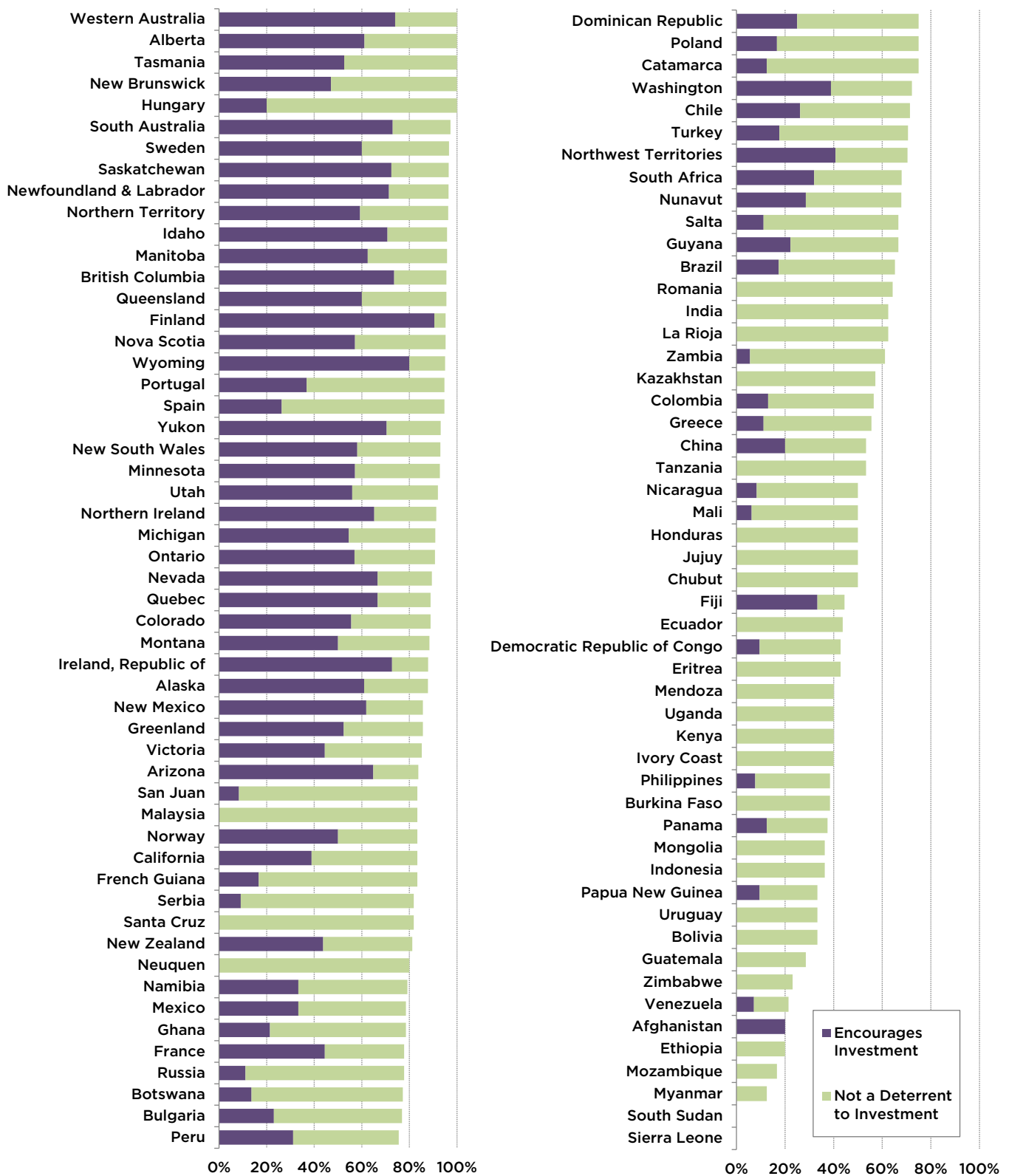


Figure 28: Security

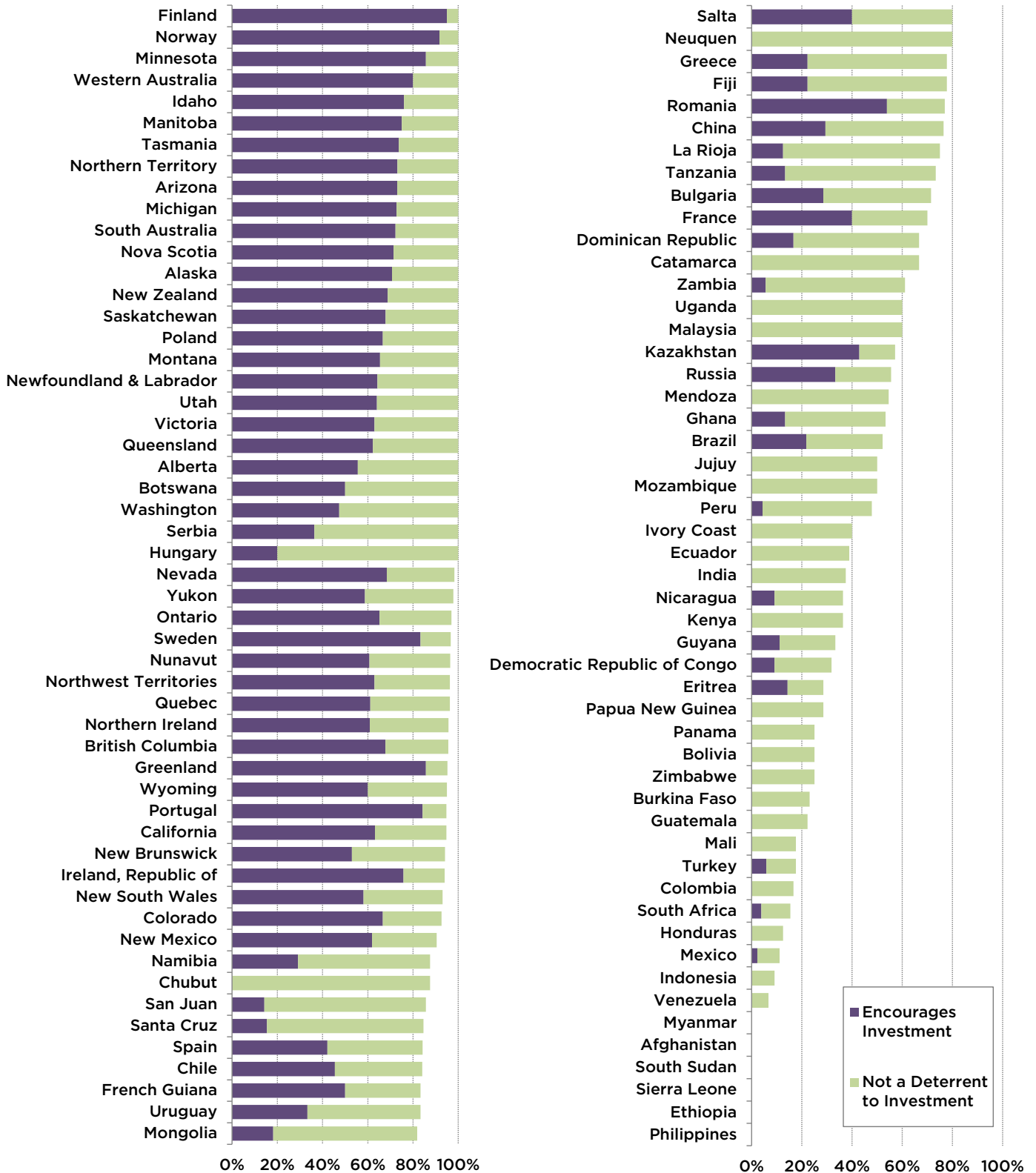
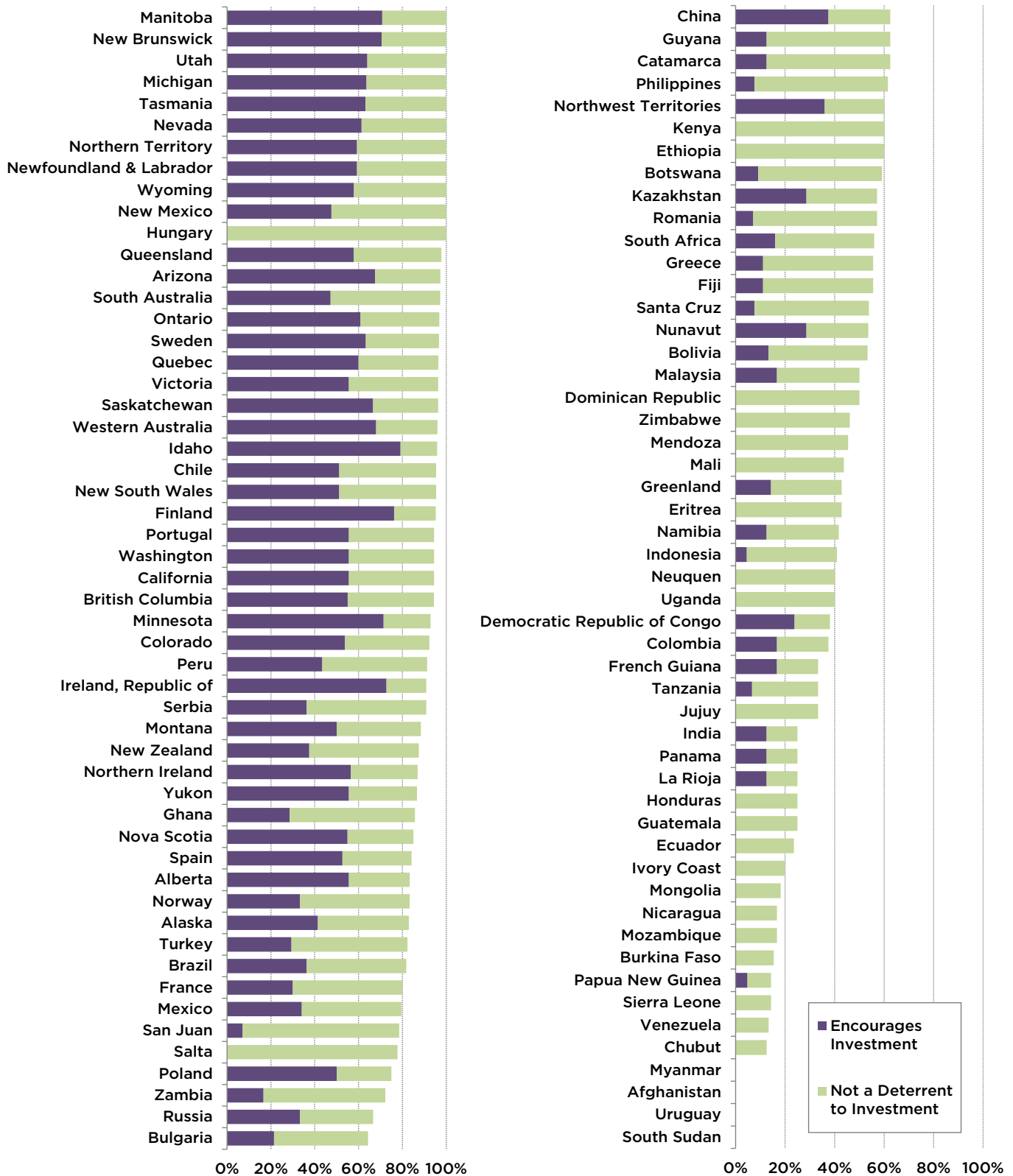


Figure 29: Availability of Labor/Skills



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 also wish to acknowledge the work of then Executive Director Michael Walker and Laura Jones for conceptualizing this project 19 years ago. As well, we thank Gavin Rogers for his excellent research assistance.

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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.

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