

An aerial photograph of a mining site. The terrain is dark and textured, with a prominent, large, yellowish-brown tailings pile in the center. The image is used as a background for the report cover.

THE FRASER
INSTITUTE

Fraser Institute Annual Survey of
Mining Companies
2000 / 2001

About The Fraser Institute

The Fraser Institute is an independent Canadian economic and social research and educational organization. It has as its objective the redirection of public attention to the role of competitive markets in providing for the well-being of Canadians. Where markets work, the Institute's interest lies in trying to discover prospects for improvement. Where markets do not work, its interest lies in finding the reasons. Where competitive markets have been replaced by government control, the interest of the Institute lies in documenting objectively the nature of the improvement or deterioration resulting from government intervention. The Fraser Institute is a national, federally chartered non-profit organization financed by the sale of its publications and the contributions of its members, foundations, and other supporters.

Acknowledgements

We would like to thank all the companies who took the time to participate in *The Fraser Institute's Annual Survey of Mining Companies 2000/2001*. Your continued encouragement and participation makes this survey a success. We would also like to extend a special thank you to the Prospectors and Developers Association of Canada (PDAC), whose generous support made this year's survey possible. Finally, we would like to thank Sharon Prager for her help with redesigning the survey and adding US jurisdictions two years ago.

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Table of Contents

Survey Information	4
Executive Summary	5
Survey Background	9
Survey Results	10
Section I: Investment Climate Ratings	10
Graphical Results	13
Tabular Material	37
Section II: Investment Overview	43
Section III: Exploration Investment Trends	44
Survey Questions	47

Survey Information

The *Fraser Institute Annual Survey of Mining Companies 2000/2001* was sent to 954 senior and junior mining companies. The survey represents responses from 16 percent (157) of those companies, comprising 132 junior and 25 senior companies. The companies participating in the survey account for exploration expenditures totalling almost US\$726 million (1999). They represent almost 50 percent (US\$167 million) of the total mineral exploration expenditure in Canada in 1999 (US\$337.2 million) as estimated by the Canadian government's Natural Resources Canada. This survey represents over 40 percent (US\$108.9 million) of the exploration expenditures (US\$270 million) in the United States in 1999 as estimated by the Metals Economics Group (MEG).

A copy of the survey is included at the end of this document.

Executive Summary—2000/2001 Mining Survey

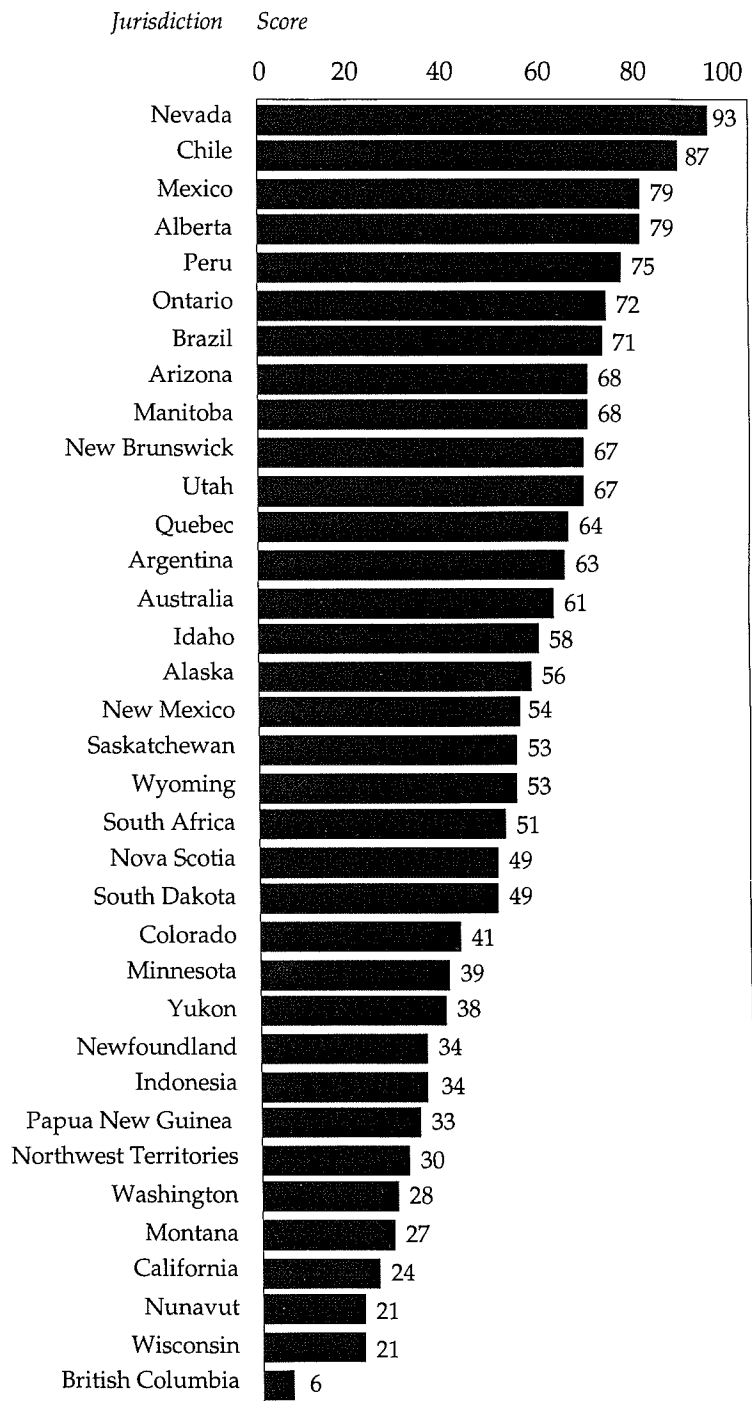
The Fraser Institute conducted its first survey of mining companies in 1997 to assess how various public policy factors such as taxation and regulation affect exploration investment in Canada. Since then, we have expanded the survey to include selected US states, and foreign jurisdictions. This year, our international comparisons are with Argentina, Brazil, Chile, Mexico, Peru, Australia, Papua New Guinea, Indonesia, and South Africa. We look forward to further expanding the survey in the years ahead, as well as to building a complementary objective index of factors such as taxation and regulatory burden in key jurisdictions.

Policy Potential Index: A "Report Card" to Governments

While geological and economic evaluations are always requirements for exploration, increasingly it is a region's policy climate that drives investment decisions.

The Policy Potential Index is a composite index that measures the effects on exploration of government policies, including: taxation, environmental regulations, duplication and administration of regulations, native land claims, protected areas,

Figure 1: Policy Potential Index



The Investment Attractiveness Index Shows the Best- and Worst-Rated Places to Spend Exploration Dollars

An overall Investment Attractiveness Index is constructed by combining the mineral potential index, which rates regions based on geological attractiveness, and the policy potential index, a composite index that measures the effects of government policies on exploration investment.

For the third year in a row, the state of Nevada is the top-rated jurisdiction for overall investment attractiveness with a score of 95 points out of a possible 100. The impressive rating is the result of the state's top rating in policy potential (93) and high rating in mineral potential (97). Chile (91), Ontario (86), Peru (82), and Mexico (77), also performed well overall. Ontario outperformed fourth and fifth place contenders Peru and Mexico in terms of investment attractiveness because of its top ranking on the mineral potential index (100), even though the latter two countries continue to attract high levels of exploration investment. Also placing in the top ten jurisdictions for overall investment attractiveness are Australia (75), Brazil and Alaska (tied at 74), Quebec (73), and Arizona (60).

At the other end of the scale, Wisconsin (16), Minnesota (24), Nova Scotia (26), and Washington and South Dakota (tied at 27) were rated the least attractive areas for new mining investment. Wisconsin's low investment attractiveness score suggests the results of its moratorium on mining and well-publicized anti-mining attitude as well as its low scores on both the mineral and policy potential indices. Nova Scotia's low rating on the investment attractiveness index is mainly due to a perceived lack of mineral potential as shown by its last-place finish on the mineral potential index. Other low-scoring jurisdictions include California (32), Colorado, Wyoming, and Montana (tied at 35), and Newfoundland (40).

Survey Background

The idea to survey mining companies about how government policies and mineral potential affect new exploration investment came from a Fraser Institute conference on mining held in Vancouver in the fall of 1996. At that conference, many industry representatives who had privately been critical of how government policy was deterring investment in the mineral rich province of British Columbia were reluctant to express those same views publicly. Any public criticism of government policy may have negative effects on projects already under way in a region. As a result, governments remain largely unaccountable for the impact of their actions, which can encourage, discourage, or in some cases virtually eliminate new exploration. To add to this problem, new exploration is an indicator of the future, not present health of the mining industry in a region. The effects of increasingly onerous, seemingly capricious regulations, uncertainty about land use, higher levels of taxation, and other policies will rarely be felt immediately as they are far more likely to deter companies looking for new projects than they are to shut down existing operations. The lack of accountability that stems from 1) the lag time between when policy changes are implemented and when economic activity is impeded and job losses occur and 2) industry's reluctance to be publicly critical of governments, is a cause of concern for those who would like to see a healthy future for the mining industry in their jurisdictions.

In order to address this problem and assess how various public policy factors influence companies' decisions to invest in different regions, The Fraser Institute began conducting an anonymous survey of senior and junior mining companies in 1997. The first survey included all Canadian provinces and territories. The second survey, conducted in 1998, included 17 US states, Mexico, and, for comparison with North American jurisdictions, Chile. The third survey, conducted in 1999/2000, was further expanded to include Argentina, Australia, Peru, and Nunavut. This year's survey looks at the Canadian provinces and territories (except for PEI, due to its lack of mineral potential), 14 US states, Australia, Argentina, Chile, Mexico, and Peru, as well as Brazil, Indonesia, Papua New Guinea, and South Africa.

Survey Results

Section I: Investment Climate Ratings

Methodology

The following section provides an analysis of eleven factors that determine the ability of selected jurisdictions to attract exploration investment. Companies were asked to rate for each jurisdiction the following ten factors on a scale of 1 to 6:

- Uncertainty concerning the administration/interpretation/enforcement of existing regulations
- Environmental regulations
- Regulatory duplication and inconsistencies
- Uncertainty concerning native land claims
- Uncertainty concerning what areas will be protected as wilderness or parks
- Infrastructure
- Labour regulation/employment agreements
- Socio-economic agreements/community development conditions
- Taxation regime
- Mineral potential, assuming CURRENT regulation/land use policies
- Mineral potential, assuming NO land use restrictions in place, and further assuming that any mine would operate to industry best practice standards

Scale

1 = encourages exploration investment

2 = not a deterrent to exploration investment

3 = mild deterrent to exploration investment

4 = strong deterrent to exploration investment

5 = would not pursue exploration investment in this region due to this factor

6 = do not know

Figures 4 to 12 show the percentage of respondents who rate various policy factors as strong deterrents to exploration investment. This includes survey respondents who rate the factor either a "4" or a "5" on the scale above. Figures 13 and 14 show the percentage of respondents who say that mineral potential either "encourages exploration investment" or is "not a deterrent to exploration investment." Figures 1, 2, and 3 give the composite ratings for policy po-

tential, mineral potential, and investment attractiveness. Tables 1 and 2 summarize the results, and show the percentage of respondents who rated mineral investment negatively. Tables 3 and 4 summarize the percentage of respondents who rate the various factors as “encouraging exploration investment” and “not a deterrent to exploration investment.” Table 5 shows the number of companies who indicated that a jurisdiction has the most/least favourable policies towards mining.

Graphical Results

Uncertainty Concerning the Administration, Interpretation, and Enforcement of Existing Regulations

In "British Columbia ... The industry does not know where it stands. There is no certainty that a mine can go into production in a reasonable time frame."

—Vice President, Junior mining company

In the "USA" there is "[a] long progression of hurdles, each set higher than the last." "They should discontinue giving credence to frivolous appeals and NIMBY reasoning for halting development."

—Vice President Exploration, Senior mining company

In "Washington, USA ... [t]hey have no respect for the rule of law... The system should be streamlined and the state and BLM [Bureau of Land Management] should respect the industry by dealing honestly and fairly. Rules should be clear, written down, and not subject to political interference."

—President, Junior mining company

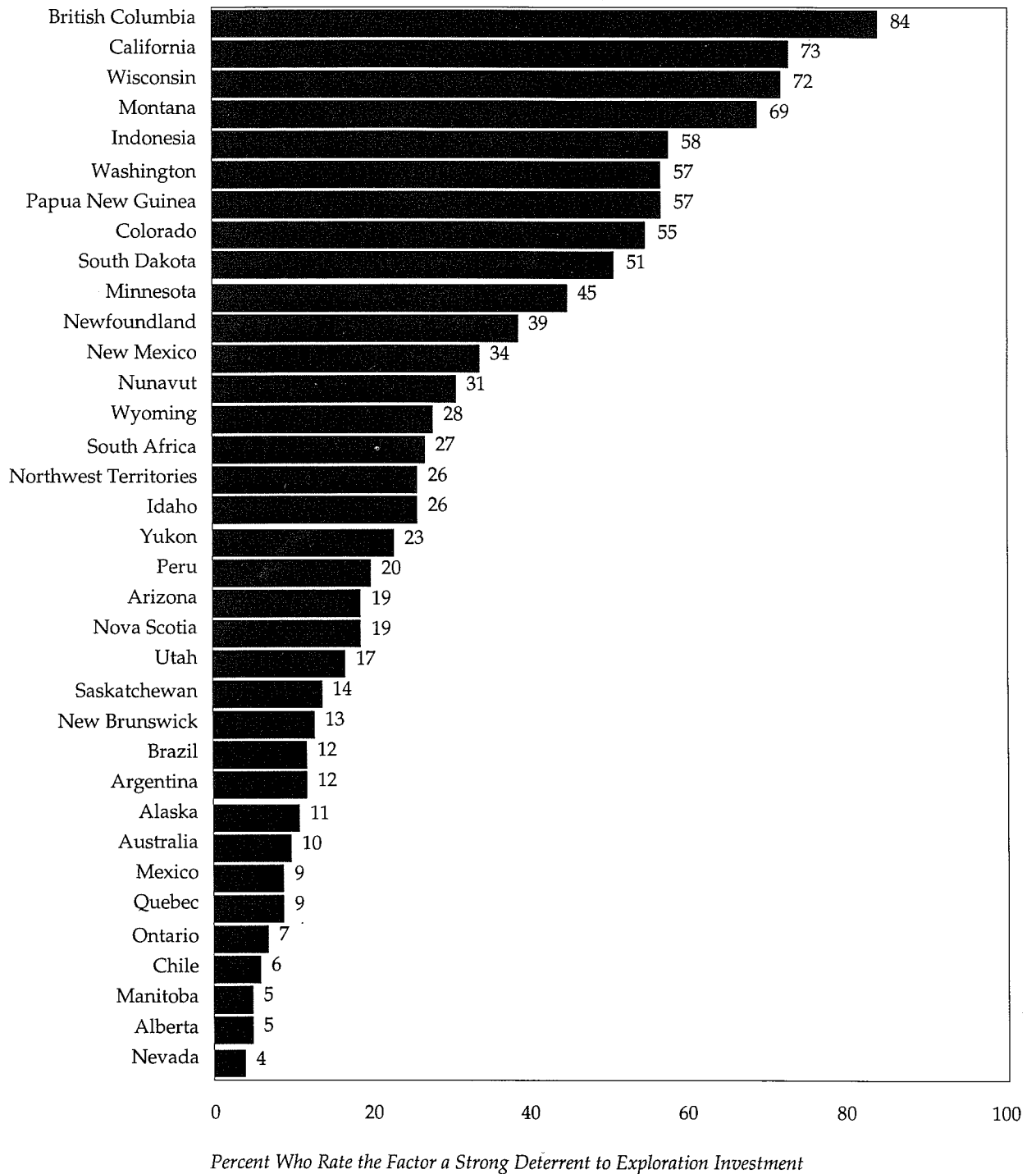
"Nevada" has "consistent, well-applied regulations." "Wisconsin" has "unreasonable criteria for mine permitting."

—President, Senior mining company

"Permitting time to get permission to rehabilitate an old road took approximately 15 minutes in Northern Chihuahua. In the Yukon, [another company] had to wait 2 years for a Water License. Financiers withdrew and the project has not proceeded."

—Vice President, Junior mining company

Figure 4: Uncertainty Concerning the Administration, Interpretation, and Enforcement of Existing Regulations



Environmental Regulations

“British Columbia Environmental Assessment Process so-called ‘mandatory timelines’ are meaningless because cabinet routinely grants extensions to the timelines. This means that the Review Committee members feel completely free to load the Applicant up with an unreasonable number of studies knowing that the Committee can have all the time it wants to review the information that it has demanded. Fewer extensions would lead to smaller demands for studies which would result in streamlining the process.”

—President, Junior mining company

“I think Ontario’s new non-permit (no permit required) exploration policies deserve credit. Innocent until proven guilty (a refreshing attitude!)”

—President and CEO, Junior mining company

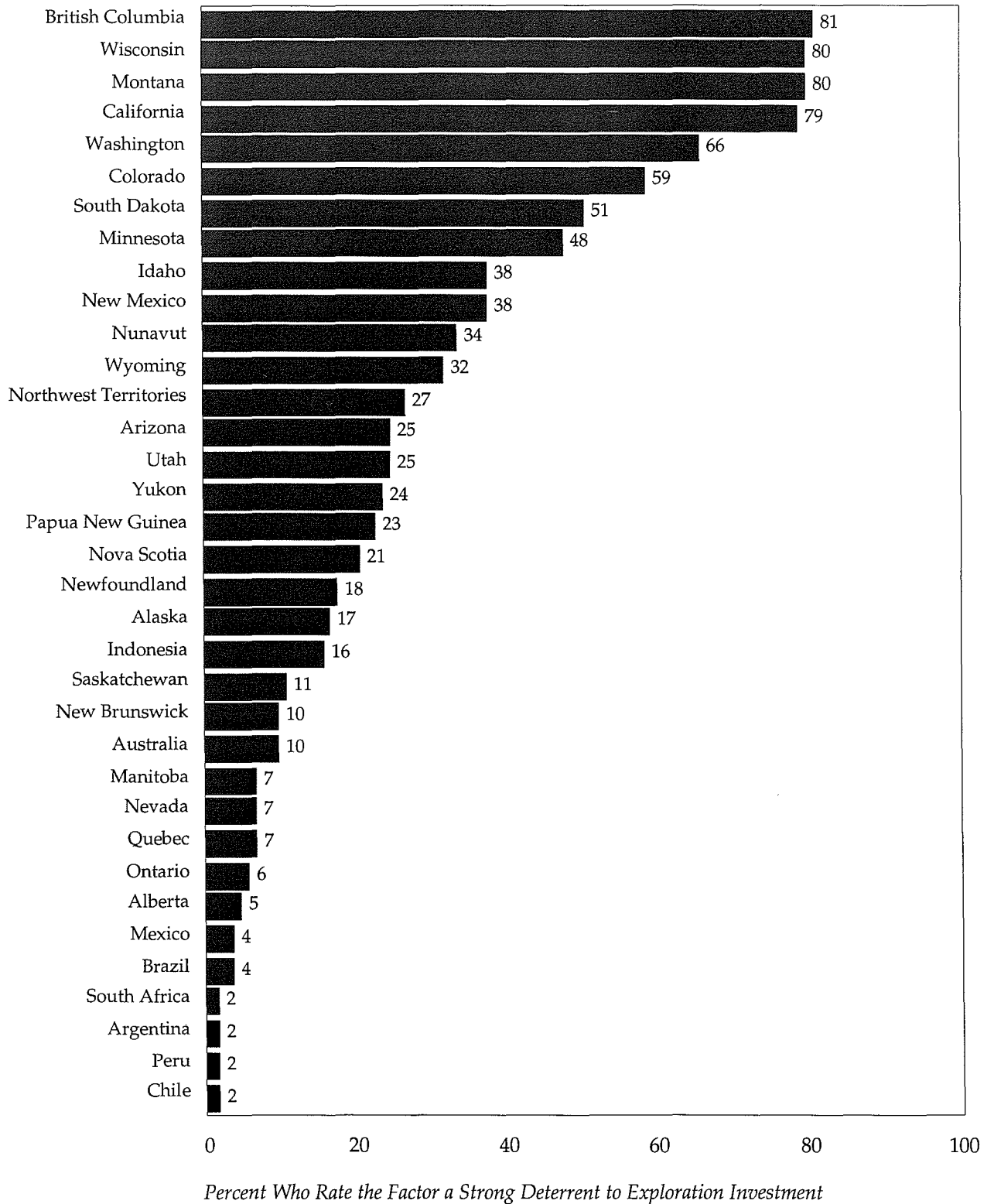
“The extraordinary fines levelled [on mining companies following the] ... occasional death of ducks in cyanide ponds in the western US [are] often \$20-\$30,000 per bird, completely out of line [when compared with] bird mortality from other man-made objects—autos, powerlines, wind-powered (green!) power generating devices, TV towers, high buildings, etc.”

—Vice President Exploration, Senior mining company

“[F]ollowing 3½ years of review and approx. \$7 million in environmental studies, we received a project approval certificate for our project.... [T]hat certificate was quashed following a successful legal challenge mounted by local First Nations and funded by a coalition of US-based environmental organizations. This is a classic example of the uncertainties facing resource companies in BC. The EAP is onerous enough, but when you finally do get project approval you still don’t have a clear right to develop!”

—VP Exploration, Junior mining company

Figure 5: Environmental Regulations



Regulatory Duplication and Inconsistencies

A “BC company spent \$1.5 million developing and going through the permitting process. The project was signed on by all government departments—then sent to cabinet for final signature. It is still waiting for approval after 8 years. The company died and shareholders were left high and dry. Political expediency reigned over sanity and logic.”

—Director, Junior mining company

The best jurisdictions in which to mine are “Quebec (= Ontario = Manitoba).” They have an “open, transparent process with government.” The worst is “British Columbia” with a “weak government overruled by anti-mining special interest groups.” They need to “[c]hange to an open, transparent process, with clear guidelines, and stick to them.”

—Chief Geologist, Senior mining company

“...[T]he BC government took 49 days to extend an existing, bonded work permit (with no complaints or infractions during the previous 5 years) to diamond drill 3 targets, 2 of which were on a road; the third requiring 650 metres of dozer-trail construction. The project is located in an area of extensive clear-cutting, seismic lines, drill and logging roads, and open pit coal mines. No explanations or apologies were offered for the delay.”

—President, Junior mining company

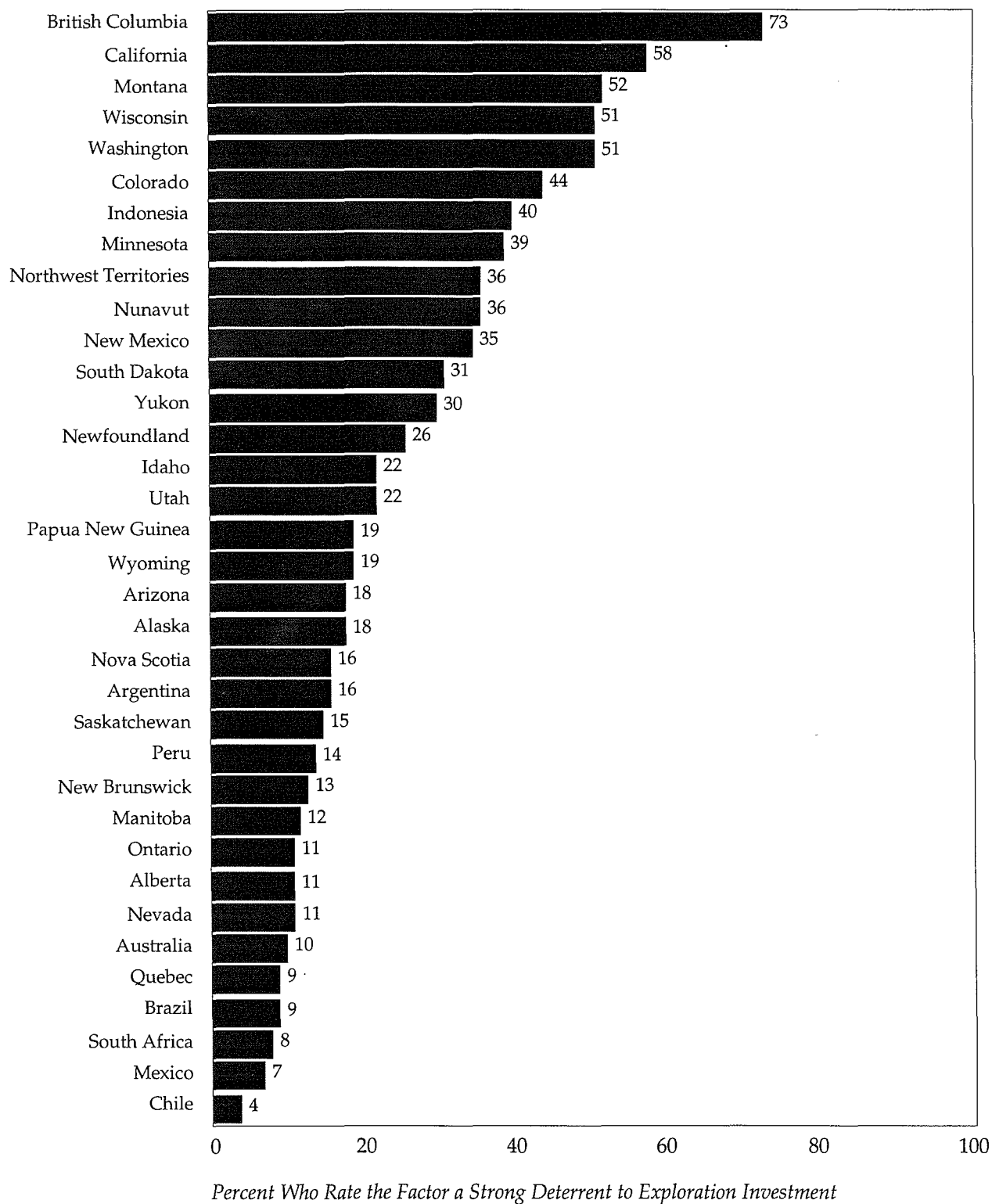
“Chile” is the best jurisdiction in which to mine. They have a “simple mining code, and government agencies make decisions quickly.”

—Exploration manager, Junior mining company

“Most of the US, including such favoured states as Alaska” is the worst place to mine. “Although politicians stand up and say ‘we are open for business’ the reality is that mine permitting or advance exploration phase is complex, expensive, and lengthy due to government regulation.

—President, Junior mining company

Figure 6: Regulatory Duplication and Inconsistencies



Native Land Claims Uncertainty

“British Columbia is the most hostile jurisdiction I’ve encountered. The government confiscation of mineral deposits is tantamount to that practised in the Soviet revolution. (Windy Craggy is unforgettable.) The native land claims granted by BC and Canada are scary to say the least!”

—President and CEO, Junior mining company

“DIAND’s mandate is to ‘encourage economic development of the Yukon’ (DIAND Act). They have failed miserably. The continued uncertainty of unsettled native land claims and overly restrictive permitting requirements for basic exploration work combine to make Yukon second to none as a poor place to spend high-risk exploration dollars. High risk is something we expect in our industry, but the level of risk with respect to secure tenure and permitting is unacceptable in the Yukon. DIAND has failed to enforce existing regulations at some mines that were permitted.... The Yukon economy is now almost totally dependent on federal transfer payments.”
Someone should “[m]ake DIAND personnel more accountable for their inaction.”

—Vice President, Junior mining company

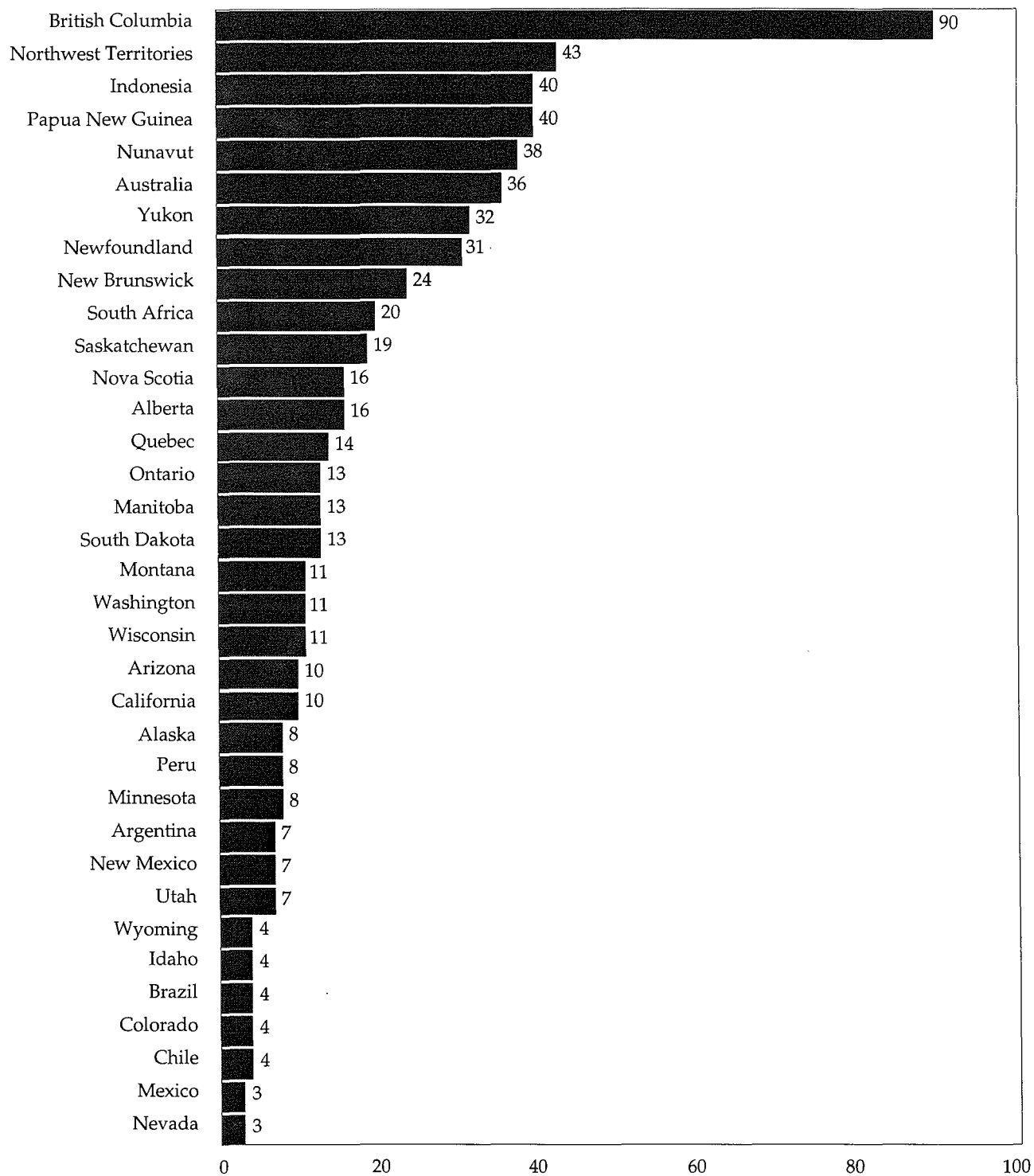
“Our company has been frustrated by the implementation of native title in Australia since its introduction in 1994. This has forced us to look to exploration opportunities in South East Asia and, more recently, India, where in spite of the bureaucracies, we have made rapid progress with our diamond project during the past 8 months.”

—Chief Executive Officer, Junior mining company

“Inconsistent application of environmental rules and native claims” make “BC” the worst jurisdiction in which to mine. They need “[t]o allow mines that comply with environmental regulations to proceed, not to back away from their own rules at the first grumble from some special interest group using opposition as an excuse to raise money.”

—President, Junior mining company

Figure 7: Native Land Claims Uncertainty



Percent Who Rate the Factor a Strong Deterrent to Exploration Investment

Uncertainty Concerning What Areas will be Protected as Wilderness or Parks

"BC and the Yukon" are the worst mining jurisdictions. They need to "[b]ecome pro-business rather than anti. They have killed mining exploration and are now working on forestry. BC and Yukon will become one big park..."

—Vice President, Finance, Junior mining company

"Ontario 'Lands for Life—Living Legacy' programs eliminated our future exploration potential at a producing mine. Despite a clear promise in writing from the then Mines Minister... that we could still stake ground, our claims were refused by his ministry."

—Vice President, Exploration, Junior mining company

"More than the originally-planned 12% of BC is parks. These are surrounded by 'Special Management Zones' that make up about 30% of the province, which with their regulations might as well be parks. The hassle is with environmentalists and government."

—President, Junior mining company

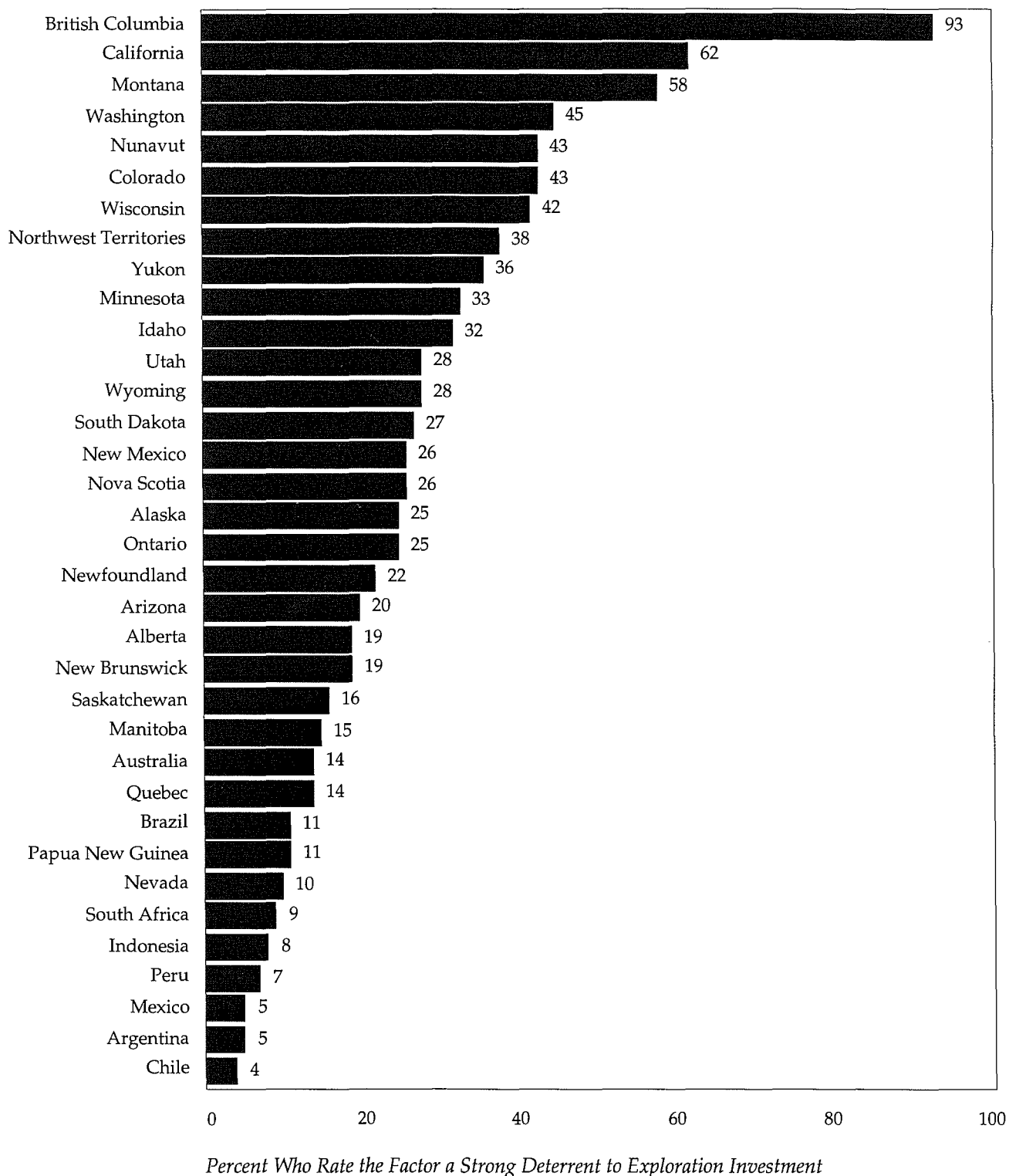
"Despite the slagging of BC, we were able to permit an exploration program (drilling—small program) within 6 hours of submitting our application. We have conducted exploration over the last 3 years without interference. The nagging issues of protected areas and land claims are here because we have civilized societies who feel that these areas must be dealt with."

—President, Junior mining company

"My limited experience suggests BC" is the worst jurisdiction in which to mine because of "land use issues." They should "[a]bandon attempts to do province-wide land use planning and go back to 'valley by valley' disputes. At least this results in areas which are not dear to environmentalists being available for development. The real problem is native ownership/treaty issues which can not be solved by a simple policy change."

—Vice President, Exploration, Junior mining company

Figure 8: Uncertainty Concerning What Areas will be Protected as Wilderness or Parks



Infrastructure

“Quebec” has the “[b]est geological database in the world, pro-mining regulations, high mineral potential.”

—President, Junior mining company

There are “problems getting land use permits in the Yukon and NWT. Generally problems are related to unqualified personnel reviewing permit applications and those departments’ ‘local’ interpretation of the mining acts.”

—Vice President Exploration, Junior mining company

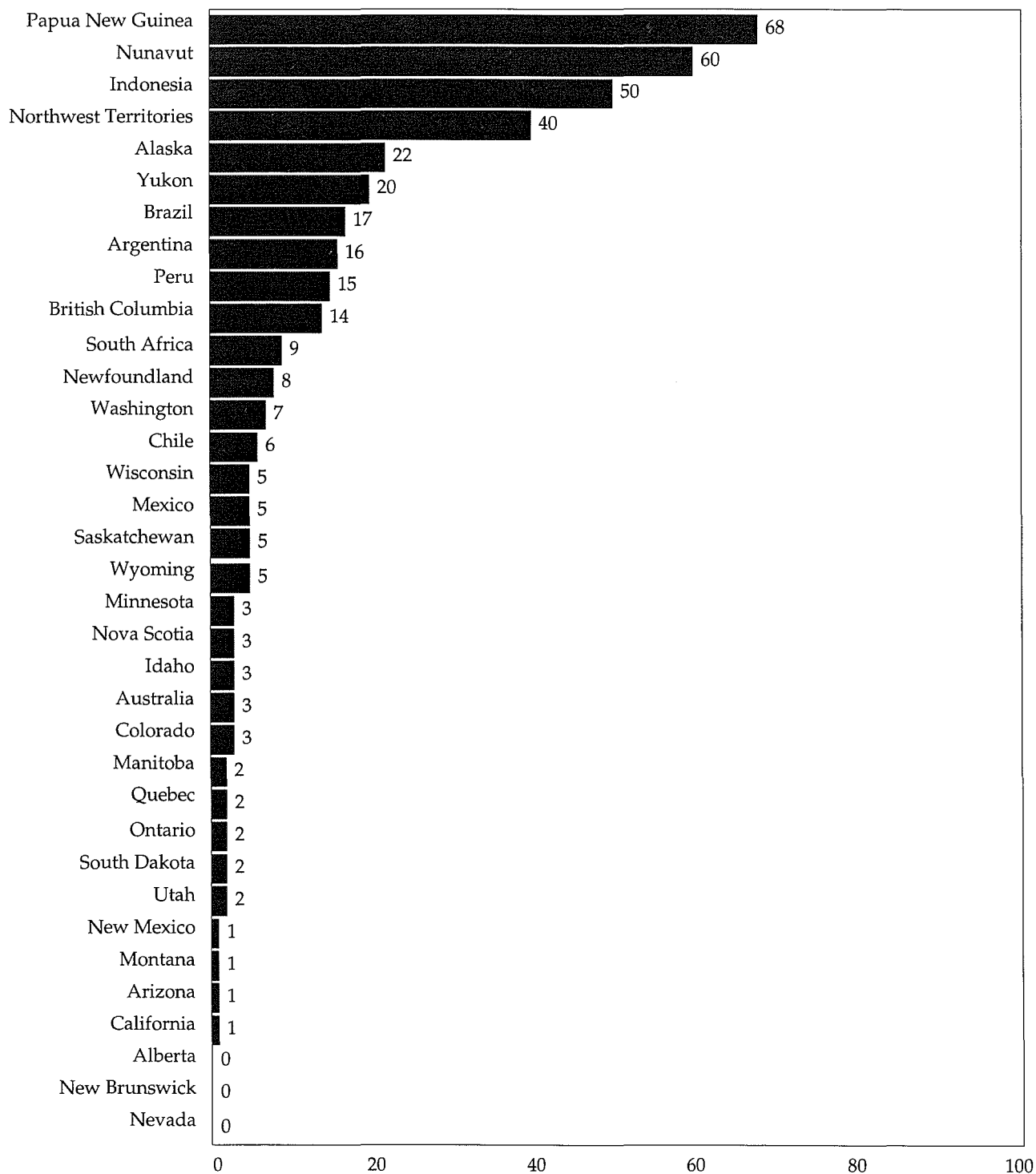
“Nevada and Mexico are continuously trying to enhance their mining industry by making available information to their exploration clients. British Columbia does not have an encompassing policy of certainty and encouragement.”

—President/Geologist, Junior mining company

In “British Columbia” there is “too much uncertainty and political interference.” They need to “create a bureaucracy that is there to help in a climate that is stable and understandable.”

—President, Junior mining company

Figure 9: Infrastructure



Percent Who Rate the Factor a Strong Deterrent to Exploration Investment

Labour Regulation

“Saskatchewan—occupational health and safety mine division—experience was too disgusting to bore you with. It cost the company \$500,000+.”

—Vice President, Exploration, Junior mining company

The “[d]eveloping/ed middle class (i.e., the work force is getting better educated), strong mining policy and support, reasonable permitting process etc.” make “Chile” the best jurisdiction in which to mine.

—Vice President Exploration, Junior mining company

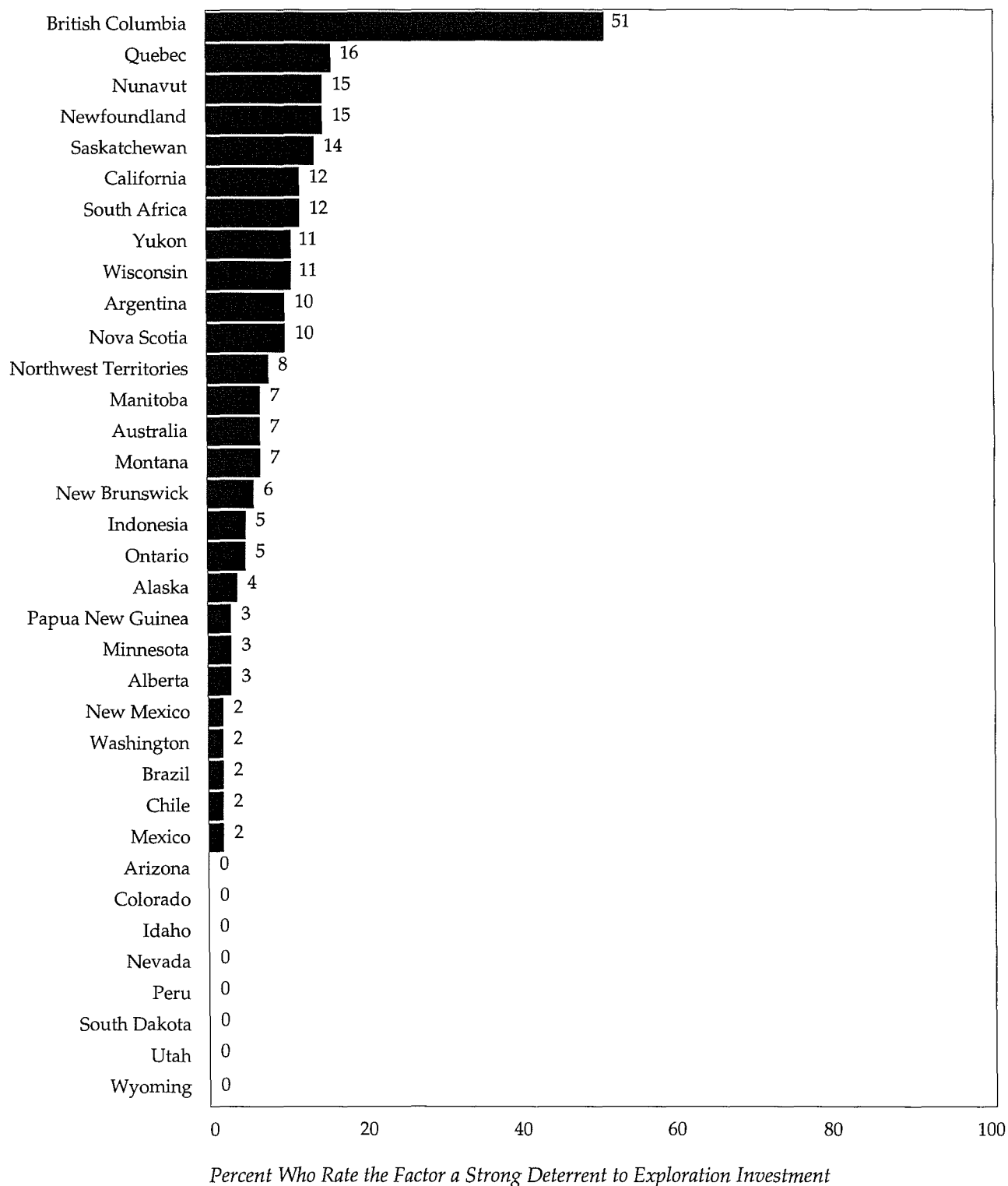
“Comments on Mexico: Lawyers are needed to do anything. They charge \$US rates, bill like crazy, and are very unproductive. Employees don’t know the meaning of ‘work.’ ...Between \$US fees and a lack of work ethic it’s hard to get any real work done.”

—Exploration Manager, Junior mining company

For the best mining jurisdiction, it is “Chile or Mexico—a draw.” They are “pro business, pro-jobs,” and have a “reasonable approach to protecting the environment.”

—President, Junior mining company

Figure 10: Labour Regulation



Socio-economic Agreements

“I am concerned about DIAND in Yukon and NWT—very confrontational, anti-development.” The policy change they need is “[d]evolution (although the regulatory process should remain with the territorial government); not local boards with multiple and diverse agendas.”

—President and CEO, Junior mining company

“The needless concessions extorted from mining companies in Canada are killing the industry here.”

—President, Junior mining company

“Australia” is the best place to mine. “Population/decision makers (especially in the states and territories—not the federal [government]) are still close to and reliant on the minerals industry for its ‘wealth’.”

—General Manager, Exploration, Junior mining company

In “British Columbia” there is an “[e]xtreme lack of ground level (voter) support for mining.” There should be a “creation of areas protected FOR mining.”

—President, Junior mining company

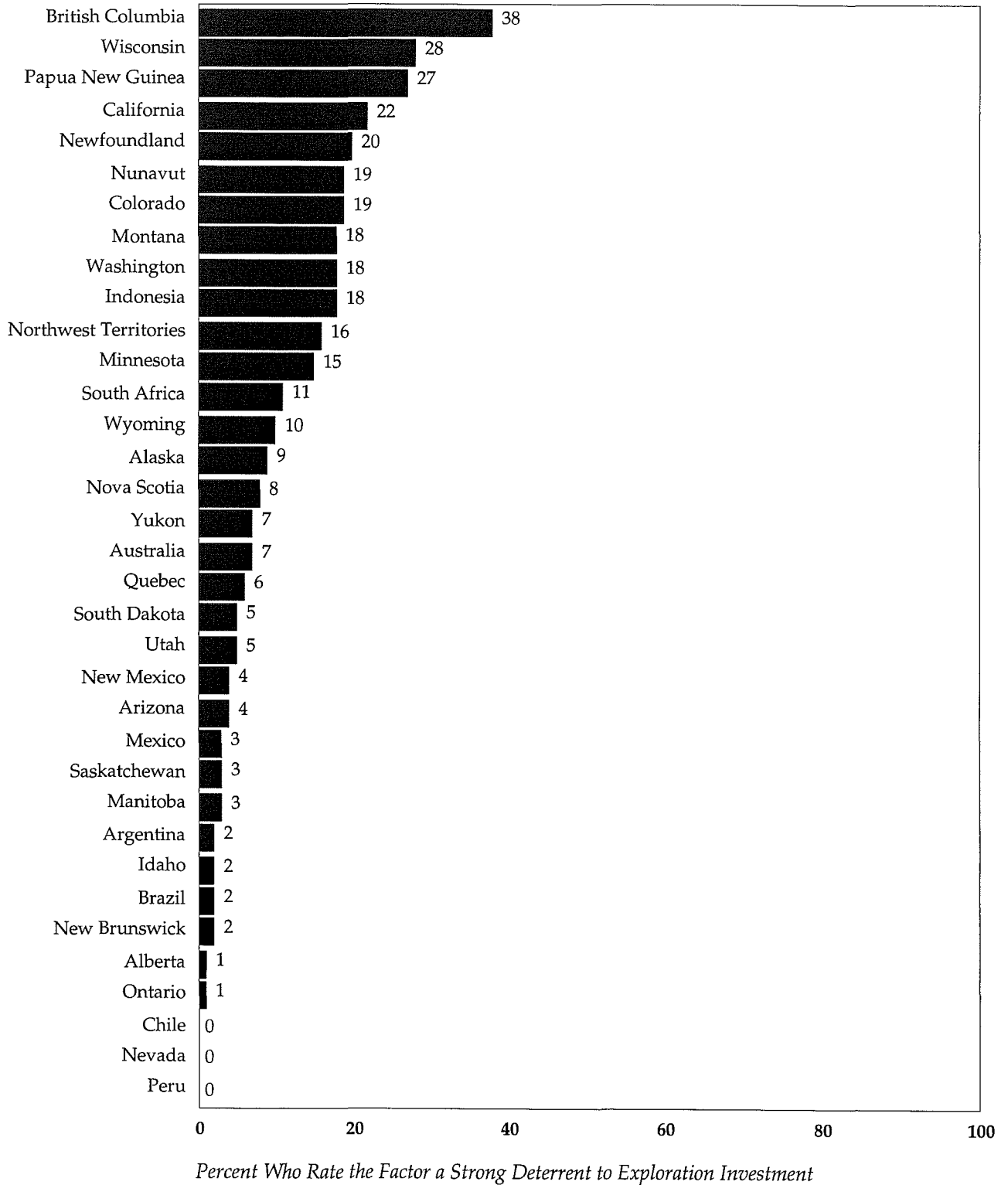
In “Canada and USA generally and BC specifically [there is] interference—socialist/environmental” with mining. They should be “educating the public and especially informing people about the importance and generally good behaviour of the mineral industry.”

—President/Geologist, Junior mining company

One horror story is “[t]he Windy Craggy story, among others that proceed down an acceptable path to development only to be blindsided by political decisions based on special interest groups’ needs. The rules of engagement should be set in stone so companies can properly judge the risks involved.”

—President, Junior mining company

Figure 11: Socio-economic Agreements



Taxation

"I have observed the regulatory process surrounding the exploration and development of... a gold mine in Newfoundland.... The speed and certainty from a regulatory, taxation, and environmental point of view associated with this development is truly astounding in this era and on this continent. Not only were no hurdles thrown up by government, but assistance in the form of infrastructure development was provided! Bravo!"

—President, Junior mining company

"Manitoba" is the best jurisdiction in which to mine because of the "welcome attitude by government."

—President, Junior mining company

"Quebec" has the "tax and financial incentive[s] in place for exploration/development."

—Manager, Exploration North America, Junior mining company

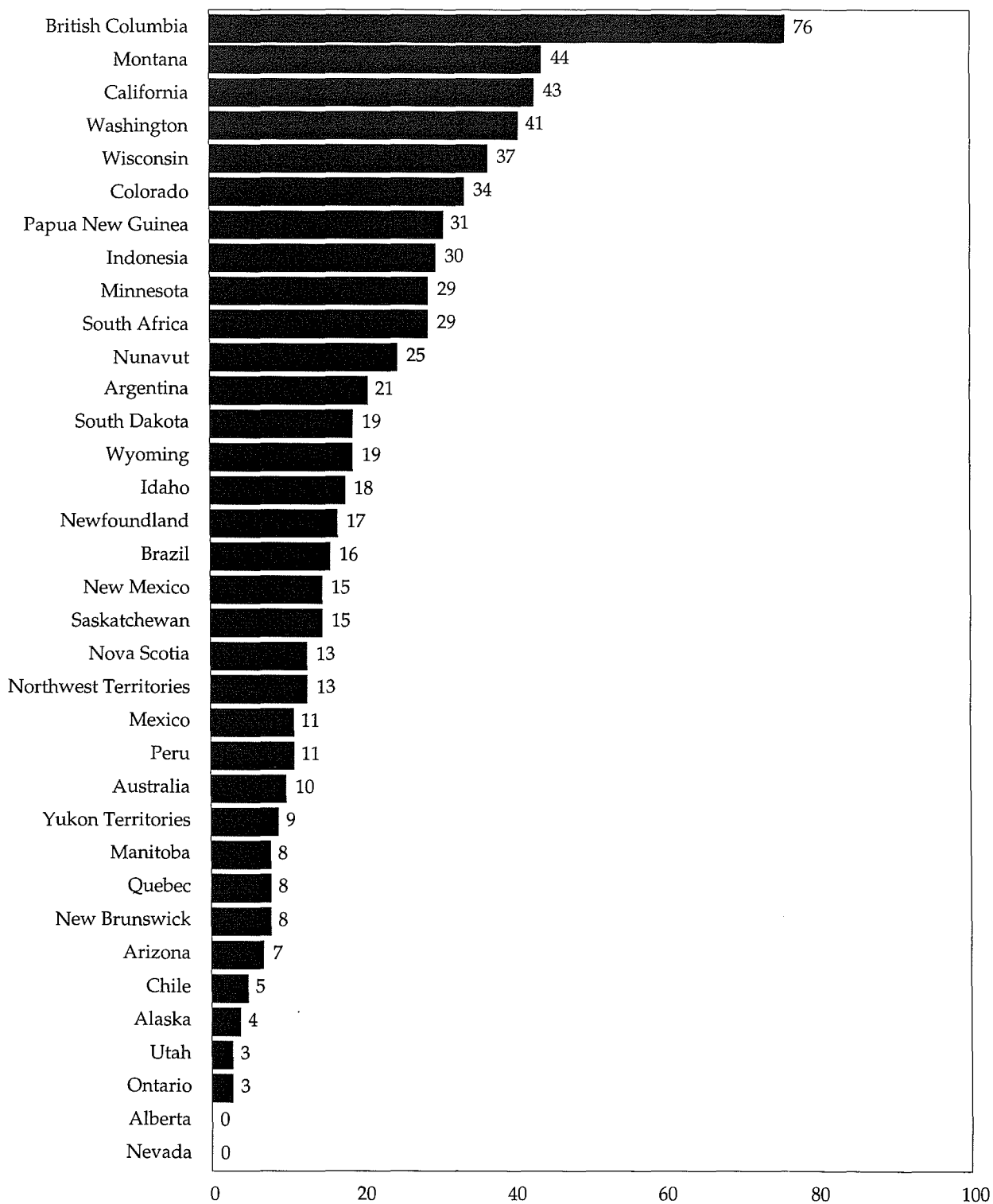
"British Columbia, Montana, California, [and] most of Latin America... are hotbeds of extreme environmentalists, or have extreme mining taxation."

—Controller, Junior mining company

"Ontario" is "moving towards a favourable tax regime."

—President, Junior mining company

Figure 12: Taxation



Percent Who Rate the Factor a Strong Deterrent to Exploration Investment

Mineral Potential Assuming CURRENT Regulation and Land Use Restrictions in Place

In the “Yukon... [t]he Premier recognizes the need to encourage investment in mining and is aggressively addressing this issue.”

—President, Junior mining company

In “British Columbia” there is “[u]ncertainty of government policies concerning mining, environment, native claims, and general policies.... Mining in general should be recognized as an important contribution to the gross domestic product.”

—Vice President, Junior mining company

“British Columbia” needs to “[s]ettle land claims, decide if mineral exploitation is wanted, and be open for business.”

—Investor Relations/Geologist, Junior mining company

“The help by the Quebec government on the development of the Troilus deposit is a perfect example of a ‘pro-mining climate’. The possibility to do exploration through certain conditions within Natural Resources in Quebec is also a very good example of a pro-mining policy.”

—President, Junior mining company

The best mining jurisdictions are “Manitoba, New Brunswick, and Nevada (and Chile). These jurisdictions actually encourage and do not impede mine investment.”

—President & CEO, Junior mining company

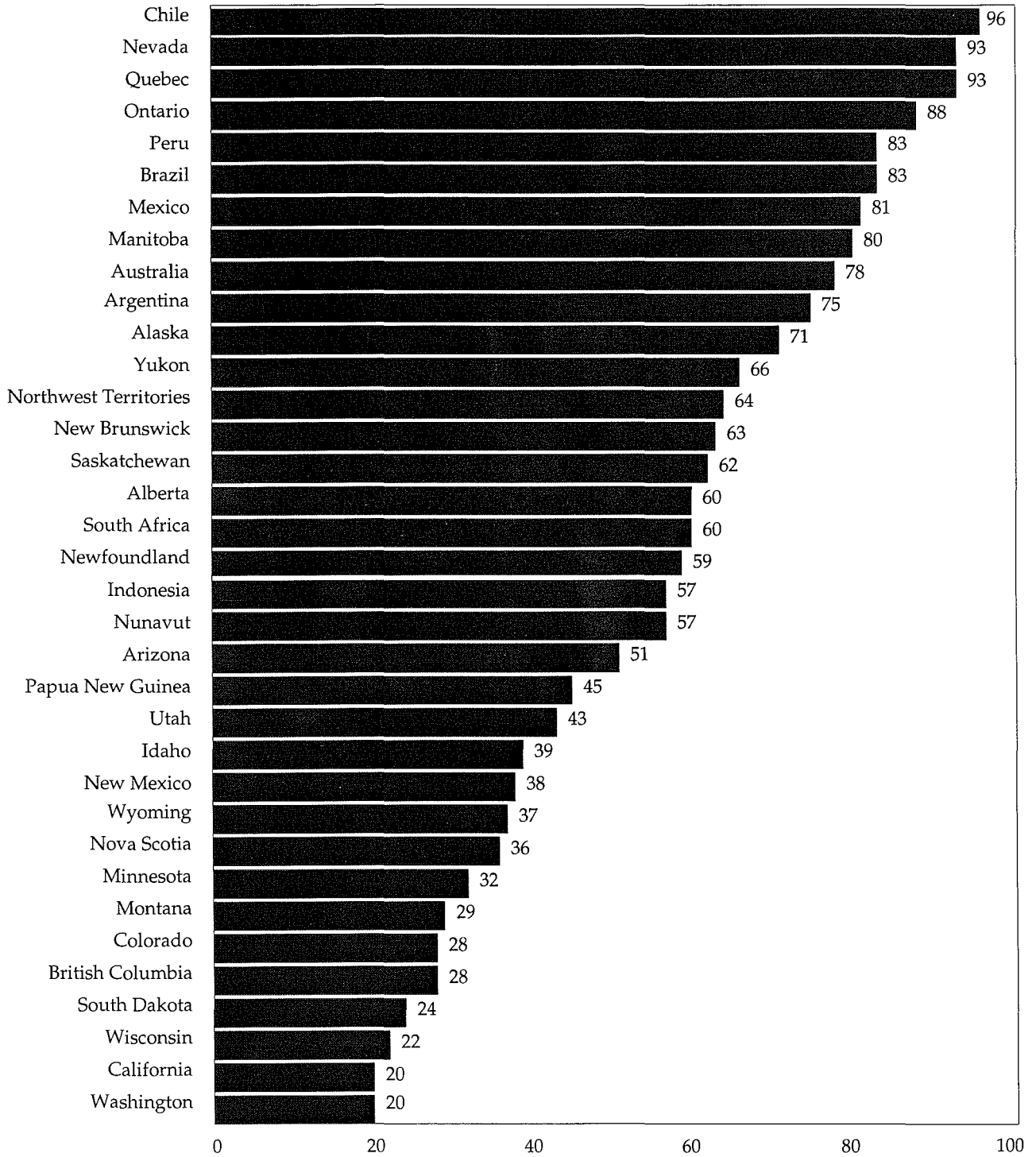
In “British Columbia” the “government kills viable mining projects on a whim.”

—Director, Junior mining company

In “BC” there is “[t]oo high a risk that political issues would stop a mine.” They need “some prolonged government action to prove that mining is a viable economic activity in the province.”

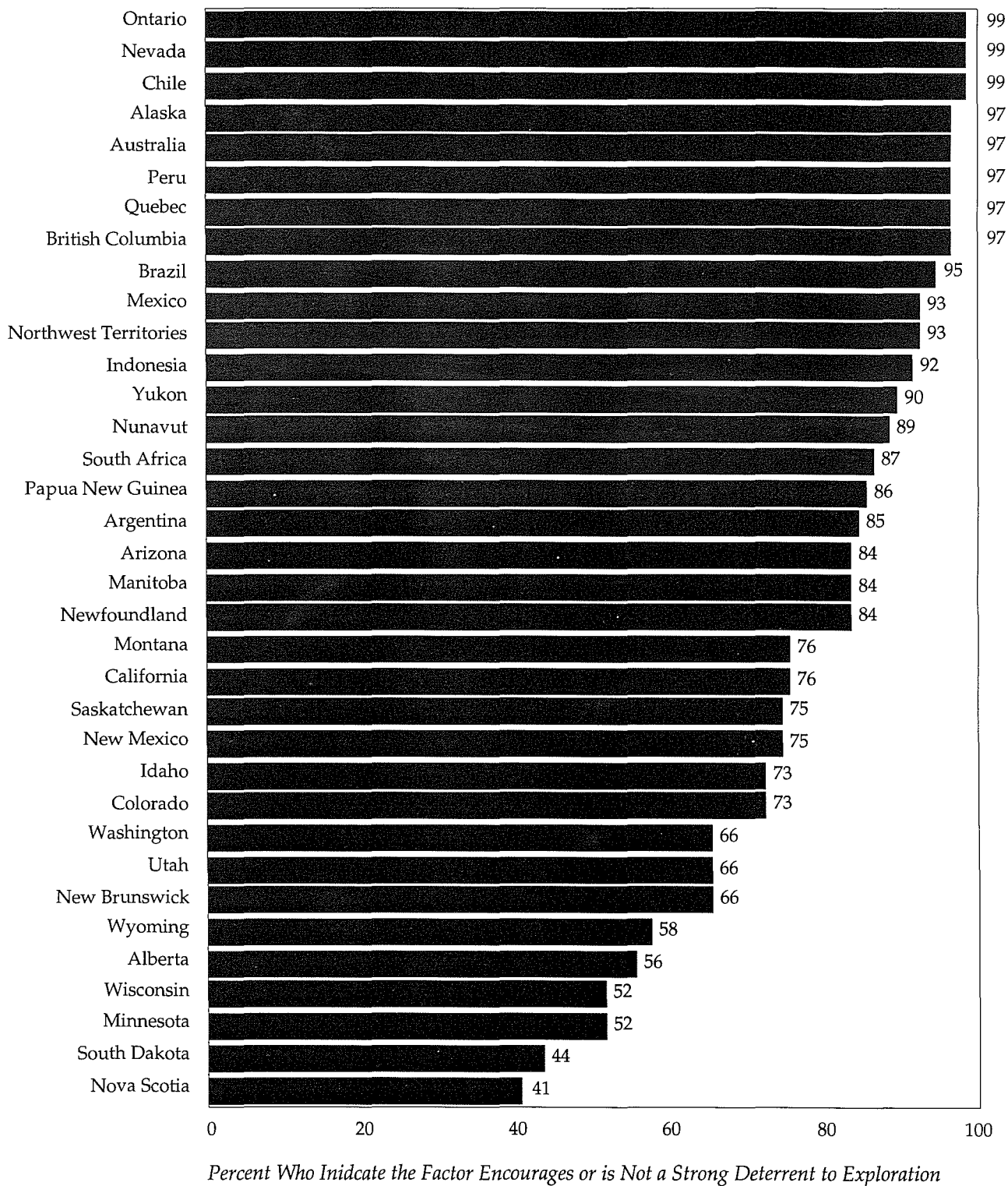
—Vice President Exploration, Junior mining company

Figure 13: Mineral Potential Assuming CURRENT Regulation and Land Use Restrictions in Place



Percent Who Indicate the Factor Encourages or is Not a Strong Deterrent to Exploration

Figure 14: Mineral Potential Assuming NO Land Use Restrictions in Place--Further Assuming Best Practice Standards



**Mineral Potential Assuming NO Land Use
Restrictions in Place—Further Assuming Industry
Best Practice Standards**

“Nevada, USA” has “[h]igh mineral potential, straight-forward permitting.”

—President, Junior mining company

The best place to mine, “[d]iscounting native title: Australia.” They have “cost-effective recoverable mineral potential.”

—Chief Executive Officer, Junior mining company

“Chile... [e]ncourages investment and has short approval time, but unfortunately this is changing. The advantages are considerably fewer than they were.”

—Exploration Manager, Senior mining company

“British Columbia” has “great geological potential, but no security of tenure.” They need to “[c]onfirm the realistic ability to mine what has been discovered.”

—Vice President Exploration, Junior mining company

Table 1: Canada, Australia, Indonesia, Papua New Guinea, and South Africa—Percentage of Respondents Who Consider Factors a Strong Deterrent to Exploration Investment*

Province/Factor	BC	AB	SK	MB	ON	QC	NB	NS	NF	NU	NT	YT	Austra- lia	Indone- sia	Papua New Guinea	South Africa
Taxation	76%	0%	15%	8%	3%	8%	8%	13%	17%	25%	13%	9%	10%	30%	31%	29%
Environmental Regulation	81%	5%	11%	7%	6%	7%	10%	21%	18%	34%	27%	24%	10%	16%	23%	2%
Regulatory Duplication	73%	11%	15%	12%	11%	9%	13%	16%	26%	36%	36%	30%	10%	40%	19%	8%
Land Claims Uncertainty	90%	16%	19%	13%	14%	14%	24%	16%	31%	38%	43%	32%	36%	40%	40%	20%
Protected Areas Uncertainty	93%	19%	16%	16%	25%	14%	19%	26%	22%	43%	38%	37%	14%	8%	11%	9%
Labour Regulation	51%	3%	14%	7%	5%	16%	6%	10%	15%	15%	8%	11%	7%	5%	3%	12%
Uncertainty in the Administration, Interpretation, and Enforcement of Regs.	84%	5%	14%	5%	7%	9%	12%	19%	39%	31%	26%	23%	10%	59%	57%	27%
Infrastructure	14%	0%	5%	2%	2%	2%	0%	3%	8%	60%	40%	20%	3%	50%	68%	9%
Socio-economic Agreements	38%	1%	3%	3%	1%	6%	2%	8%	20%	19%	16%	7%	7%	18%	27%	11%
Mineral Potential With Current Regs.	60%	14%	8%	1%	2%	3%	8%	21%	20%	21%	12%	10%	2%	17%	23%	11%
Mineral Potential With No Land Use Restrictions	2%	14%	6%	2%	0%	1%	6%	19%	0%	0%	0%	0%	0%	0%	2%	2%

*This includes both those respondents who claim the factor is a "strong deterrent to exploration investment" and those who "would not pursue exploration investment in this region due to this factor."

Table 2: USA, Argentina, Brazil, Chile, Mexico, and Peru—Percentage of Respondents Who Consider Factors a Strong Deterrent to Exploration Investment*

Province/ Factor	AK	AZ	CA	CO	ID	MN	MT	NV	NM	SD	UT	WA	WI	WY	Argen- tina	Brazil	Chile	Mex- ico	Peru
Taxation	4%	7%	44%	34%	18%	29%	44%	0%	15%	19%	3%	41%	37%	19%	21%	16%	5%	12%	11%
Environmental Regulation	17%	25%	79%	59%	38%	48%	80%	7%	38%	51%	25%	66%	80%	32%	2%	4%	2%	4%	2%
Regulatory Duplication	18%	18%	58%	44%	22%	39%	52%	11%	35%	31%	22%	51%	51%	19%	16%	9%	4%	7%	14%
Land Claims Uncertainty	8%	10%	10%	4%	4%	8%	11%	3%	7%	13%	7%	11%	11%	4%	7%	4%	4%	3%	8%
Protected Areas Uncertainty	25%	20%	62%	43%	32%	33%	58%	10%	26%	27%	28%	45%	42%	28%	5%	11%	4%	5%	7%
Labour Regulation	4%	0%	12%	0%	0%	3%	7%	0%	2%	0%	0%	2%	11%	0%	10%	2%	2%	2%	0%
Uncertainty in the Administration, Interpretation, and Enforcement of Regs.	12%	19%	73%	55%	26%	45%	69%	4%	34%	51%	17%	57%	72%	28%	12%	12%	6%	9%	20%
Infrastructure	22%	1%	1%	3%	3%	3%	2%	0%	2%	2%	2%	7%	6%	5%	16%	17%	6%	5%	15%
Socio-economic Agreements	9%	4%	22%	19%	2%	15%	18%	0%	4%	5%	5%	18%	28%	10%	2%	2%	0%	3%	0%
Mineral Potential With Current Regs.	4%	10%	38%	28%	15%	23%	45%	2%	17%	27%	18%	43%	49%	18%	8%	2%	1%	0%	2%
Mineral Potential With No Land Use Restrictions	1%	1%	6%	3%	5%	12%	5%	0%	2%	9%	7%	13%	13%	11%	3%	0%	0%	0%	0%

*This includes both those respondents who claim the factor is a "strong deterrent to exploration investment" and those who "would not pursue exploration investment in this region due to this factor."

Province/Factor	BC	AB	SK	MB	ON	QC	NB	NS	NF	NU	NT	YT	Austra- lia	Indone- sia	Papua New Guinea	South Africa
Taxation	10%	89%	53%	78%	67%	79%	64%	49%	53%	46%	55%	69%	75%	48%	53%	55%
Environmental Regulation	6%	70%	61%	74%	68%	78%	56%	42%	56%	39%	32%	45%	72%	60%	62%	77%
Regulatory Duplication	13%	61%	54%	67%	57%	71%	42%	41%	38%	30%	28%	41%	72%	15%	32%	62%
Land Claims Uncertainty	1%	47%	45%	51%	45%	52%	42%	52%	39%	40%	23%	26%	21%	28%	23%	38%
Protected Areas Uncertainty	1%	45%	55%	55%	38%	61%	50%	46%	49%	38%	33%	31%	57%	70%	70%	76%
Labour Regulation	17%	90%	65%	74%	76%	67%	66%	64%	61%	42%	46%	58%	64%	49%	57%	38%
Uncertainty in the Administration, Interpretation, and Enforcement of Regs.	8%	81%	68%	81%	73%	82%	53%	51%	32%	36%	41%	51%	71%	8%	14%	46%
Infrastructure	47%	89%	71%	79%	87%	83%	91%	83%	60%	17%	21%	30%	72%	14%	8%	66%
Socio-economic Agreements	26%	84%	74%	81%	85%	83%	76%	70%	59%	42%	41%	62%	76%	38%	27%	50%
Mineral Potential With Current Regs.	28%	60%	62%	81%	88%	93%	63%	36%	59%	57%	64%	66%	79%	57%	45%	60%
Mineral Potential With No Land Use Restrictions	97%	56%	75%	84%	99%	97%	66%	41%	84%	89%	93%	90%	97%	92%	86%	87%
*This includes both those respondents who claim the factor is a "encourages exploration investment" and those who indicate the factor is "not a deterrent to exploration investment."																

Table 4: USA, Argentina, Brazil, Chile, Mexico, and Peru—Percentage of Respondents Who Indicate Factors Encourage/Are Neutral to Exploration Investment*

Province/ Factor	AK	AZ	CA	CO	ID	MN	MT	NV	NM	SD	UT	WA	WI	WY	Argen- tina	Brazil	Chile	Mex- ico	Peru
Taxation	81%	68%	22%	31%	55%	50%	33%	97%	59%	38%	57%	32%	32%	62%	62%	64%	88%	67%	66%
Environmental Regulation	49%	27%	6%	10%	25%	15%	5%	79%	23%	15%	39%	8%	5%	32%	90%	85%	94%	79%	88%
Regulatory Duplication	57%	38%	19%	24%	39%	34%	23%	71%	39%	33%	46%	26%	30%	47%	56%	52%	78%	61%	65%
Land Claims Uncertainty	74%	75%	63%	71%	70%	70%	61%	80%	62%	65%	78%	60%	66%	73%	84%	65%	90%	75%	72%
Protected Areas Uncertainty	39%	35%	13%	15%	23%	25%	15%	68%	30%	32%	28%	14%	24%	35%	87%	70%	88%	84%	80%
Labour Regulation	75%	84%	57%	79%	84%	77%	73%	87%	79%	78%	84%	74%	76%	83%	69%	62%	73%	54%	72%
Uncertainty in the Administration, Interpretation, and Enforcement of Regs.	72%	43%	10%	15%	34%	32%	12%	87%	34%	15%	48%	12%	13%	40%	50%	53%	78%	52%	54%
Infrastructure	28%	91%	87%	74%	78%	89%	75%	95%	76%	82%	87%	77%	82%	80%	29%	21%	72%	53%	32%
Socio-economic Agreements	78%	78%	63%	64%	84%	80%	70%	97%	76%	76%	80%	62%	67%	79%	64%	54%	72%	51%	62%
Mineral Potential With Current Regs.	71%	51%	20%	28%	39%	32%	29%	93%	38%	25%	43%	20%	22%	37%	75%	83%	96%	81%	83%
Mineral Potential With No Land Use Restrictions	97%	84%	76%	73%	73%	52%	76%	99%	75%	44%	66%	66%	52%	58%	85%	95%	99%	93%	97%
*This includes both those respondents who claim the factor is a "encourages exploration investment" and those who indicate the factor is "not a deterrent to exploration investment."																			

Table 5: Number of Companies Indicating a Jurisdiction has the Most/Least Favourable Policies Towards Mining

Jurisdiction	Most Favourable	Least Favourable	Jurisdiction	Most Favourable	Least Favourable
British Columbia	0	70	Costa Rica	0	1
Chile	34	0	Ghana	1	0
USA	5	14	Honduras	1	0
Nevada	18	0	India	0	1
Quebec	18	0	Labrador	0	1
Canada	4	11	New Brunswick	1	0
Ontario	11	1	New Mexico	0	1
Mexico	10	1	New Zealand	0	1
Manitoba	9	0	Niger	0	1
Montana	0	9	Norway	1	0
Australia	8	0	Nova Scotia	1	0
Peru	8	0	Papua New Guinea	1	0
Argentina	6	1	Portugal	1	0
California	0	7	Russia	0	1
Newfoundland	4	3	Saskatchewan	1	0
Yukon	2	5	Sierra Leone	0	1
Brazil	4	0	South Africa	1	0
Washington State	0	4	South Dakota	0	1
Latin America	2	1	Spain	1	0
South America	3	0	Sweden	1	0
Alaska	2	0	Tanzania	1	0
Indonesia	0	2	Tunisia	1	0
Northwest Territories	1	1	Uruguay	1	0
Wisconsin	0	2	Venezuela	0	1
Angola	0	1	Vietnam	1	0
Arizona	1	0	West Africa	1	0
Bolivia	1	0	Western US	0	1
Canada (Eastern provinces)	1	0	Zimbabwe	0	1
Central Asia	0	1	All	1	1
Colombia	0	1	None	1	0
Congo	0	1			

Section II: Investment Overview

Senior Mining Companies Explore the World

In 1999, senior mining companies representing exploration budgets totalling over US\$354 million, divided their budgets fairly evenly, spending roughly 54 percent of their budgets outside of North America, and 46 percent of their budgets within North America. Senior companies spent 26 percent of their budgets in Canada, almost 15 percent in the United States, and almost 6 percent in Mexico.

Junior Mining Companies Invest Their Exploration Budgets Outside of North America

The junior mining companies who responded to this survey, representing exploration expenditures of US\$371 million, invested 61 percent of their budgets outside of North America in 1999. Only 20 percent of their exploration was invested in Canada, 15 percent in the USA, and 3 percent in Mexico.

Figure 15: Senior Mining Company Exploration Expenditures in 1999 (\$US millions)

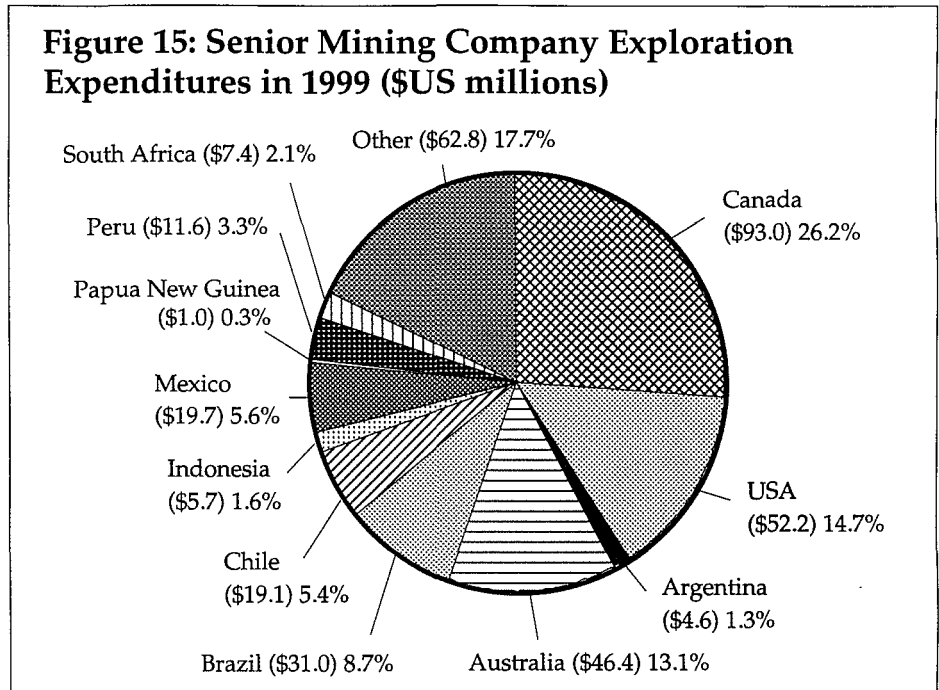
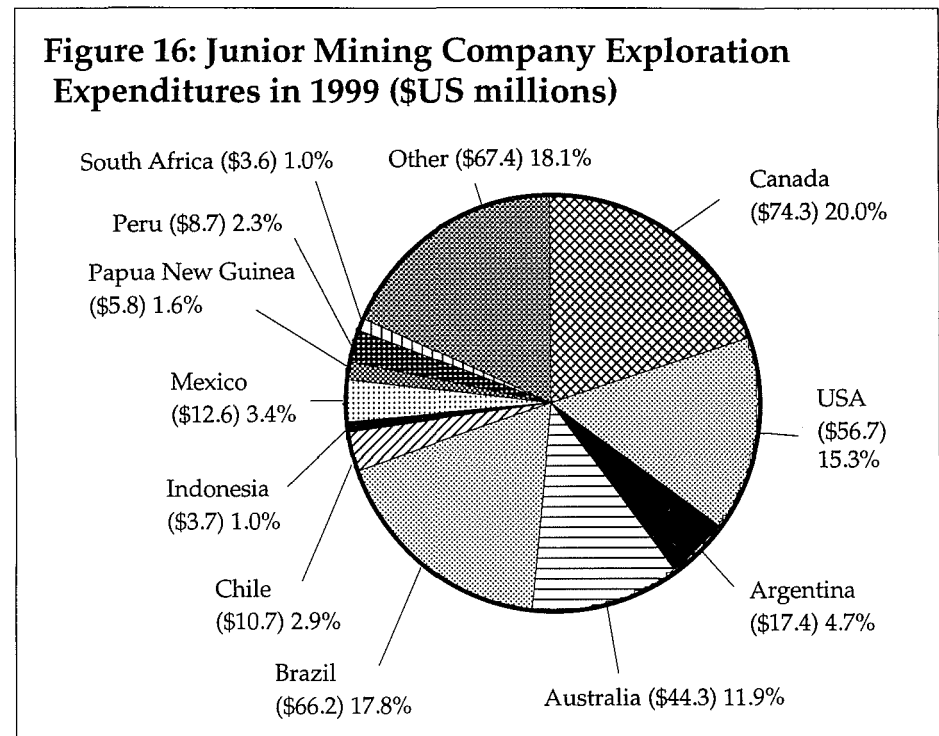


Figure 16: Junior Mining Company Exploration Expenditures in 1999 (\$US millions)

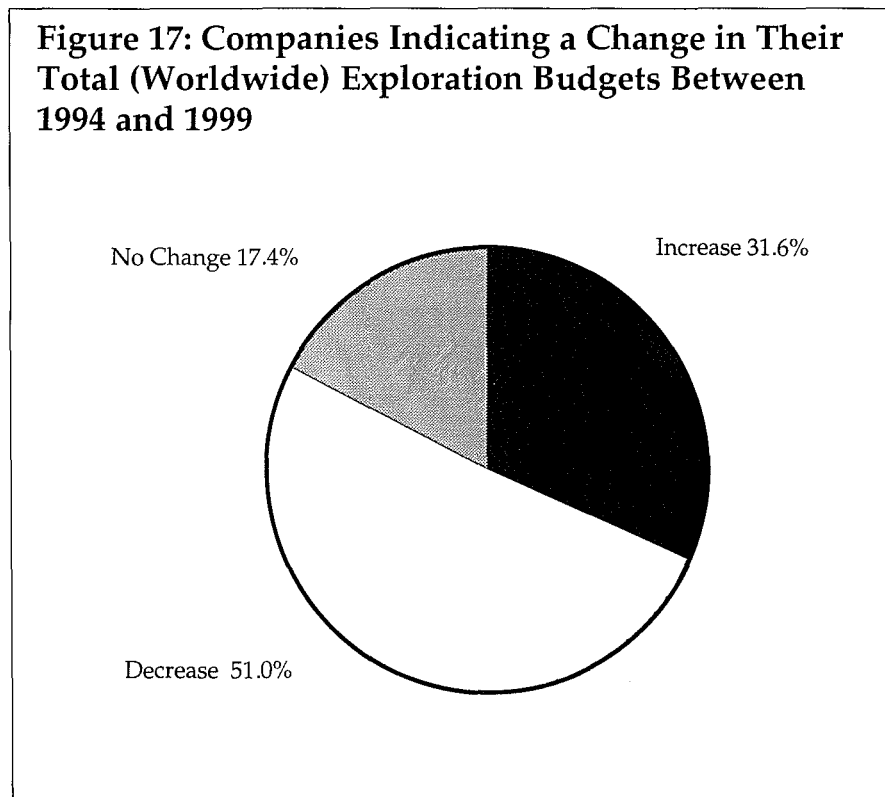


Section III: Exploration Investment Trends

The Majority of Mining Companies Surveyed (51 percent) Indicate their Worldwide Exploration Budgets have Decreased Over the Past 5 Years

Many mining companies are decreasing the proportion of their budgets they spend in the US, Chile, Peru, and Indonesia. They are increasing the proportion of their exploration budgets they spend in Australia, Brazil, Mexico, and South Africa. Responses for Canada, Argentina, Papua New Guinea, and All Other Regions were evenly divided.

Thirty-five percent of companies indicated an increase in the proportion of their budgets they spend in Canada, while another 35 percent reported a decrease. In the US, 53 percent of companies reported a decrease in the proportion of their budget they spend on exploration, while only 30 percent indicated an increase. Sixty-seven percent of companies operating in Chile indicated a decrease in the proportion of their budgets they spend on exploration, while 57 percent of companies operating in South Africa indicated an increase.



Figures 18 to 23: Changes in Exploration Investment

Figure 18: Canada

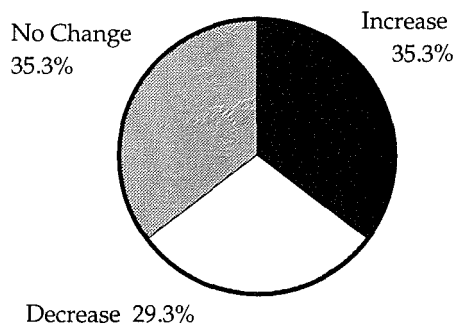


Figure 19: USA

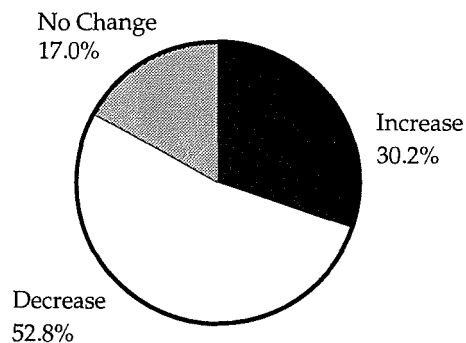


Figure 20: Mexico

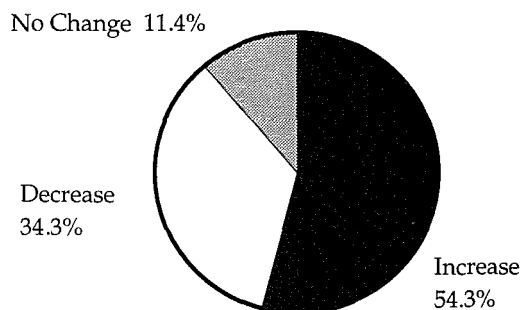


Figure 21: Australia

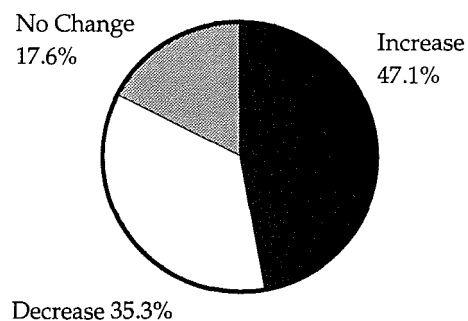


Figure 22: Argentina

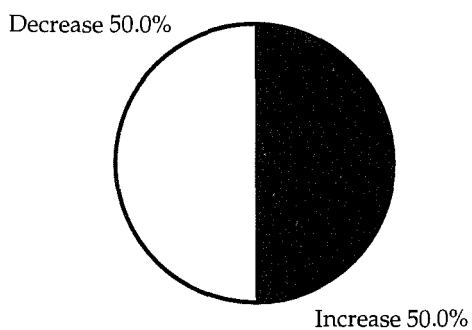
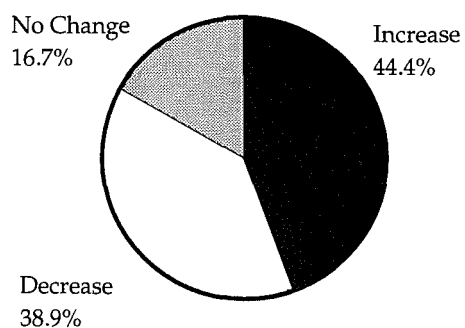


Figure 23: Brazil



Figures 24 to 29: Changes in Exploration Investment

Figure 24: Chile

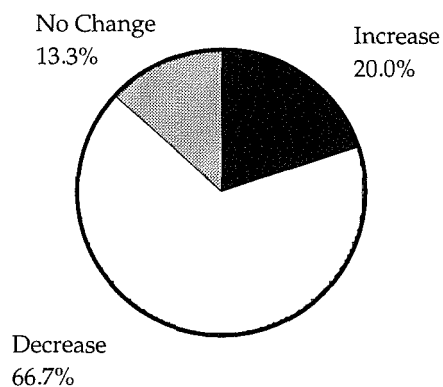


Figure 25: Peru

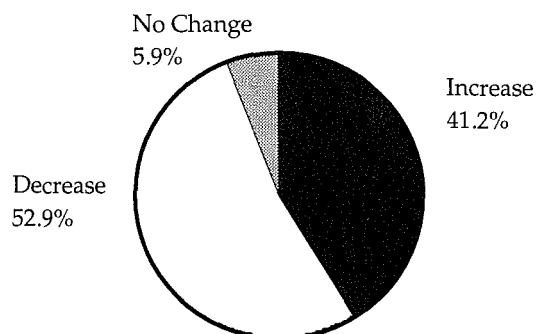


Figure 26: Indonesia

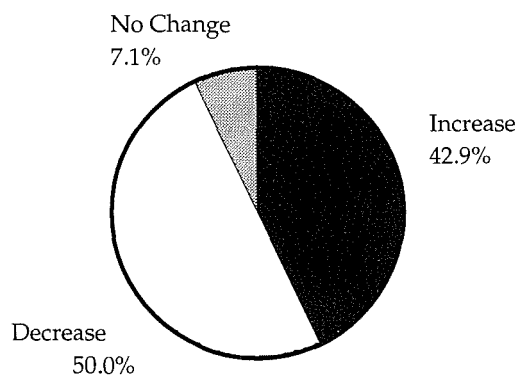


Figure 27: Papua New Guinea

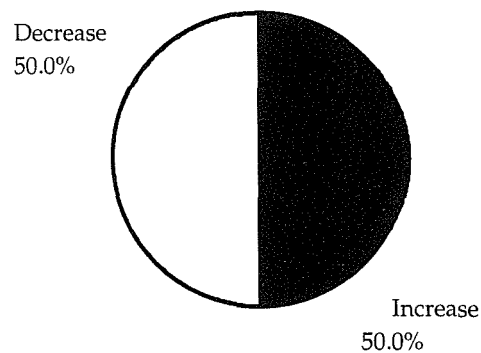


Figure 28: South Africa

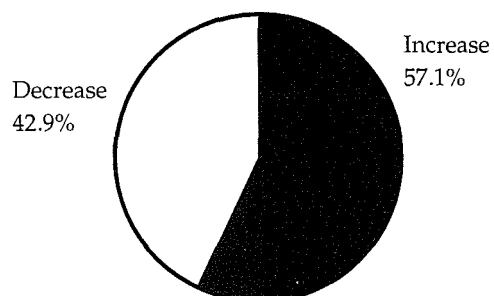
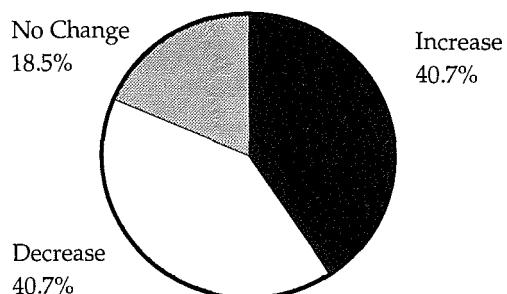


Figure 29: All Other Jurisdictions



Survey Questions

Note: For the purposes of this survey, **exploration investment** includes both basic and advanced exploration. This includes all exploration expenditures (financing costs, option payments, finders fees, etc.) incurred in searching for and delineating mineral deposits on properties where no production is taking place.

1. What percentage of your annual exploration budget in 1999 was spent inside:

Canada _____	USA _____	Argentina _____	
Australia _____	Brazil _____	Chile _____	Mexico _____
Indonesia _____	Papua New Guinea _____	Peru _____	
South Africa _____	Other _____		

(total should add to 100%)

Has that percentage changed over the 5 years from 1994-1999? If so, please indicate whether the change was positive (+) or negative (-).

Canada _____	USA _____	Argentina _____	
Australia _____	Brazil _____	Chile _____	Mexico _____
Indonesia _____	Papua New Guinea _____	Peru _____	
South Africa _____	Other _____		

Has your total (worldwide) exploration expenditure increased, decreased, or remained the same over the five years from 1994-1999?

Increased _____	Decreased _____	Remained the
Same _____		

INVESTMENT FACTORS

The following pages list factors such as mineral potential, taxation, and regulations that influence investment decisions. Please use the scale provided to rate each jurisdiction with respect to the factor listed in bold at the top of each page. *You need only rate those regions with which you are familiar.* If you are unfamiliar with a jurisdiction, leave the question blank or circle "6", the "do not know" option.

I. Please circle the appropriate rating, according to the scale in the box below, for the following regions' **TAXATION REGIME** (including personal, corporate, payroll, capital taxes and the complexity associated with tax compliance).*

Scale

1= encourages exploration investment

2= not a deterrent to exploration investment

3= mild deterrent to exploration investment

4= strong deterrent to exploration investment

5= would not pursue exploration in this region due to this factor

6= do not know

CANADA

Alberta	1	2	3	4	5	6
British Columbia	1	2	3	4	5	6
Manitoba	1	2	3	4	5	6
New Brunswick	1	2	3	4	5	6
Newfoundland	1	2	3	4	5	6
Northwest Territories	1	2	3	4	5	6
Nova Scotia	1	2	3	4	5	6
Nunavut	1	2	3	4	5	6
Ontario	1	2	3	4	5	6
Quebec	1	2	3	4	5	6
Saskatchewan	1	2	3	4	5	6
Yukon	1	2	3	4	5	6

UNITED STATES

Alaska	1	2	3	4	5	6
Arizona	1	2	3	4	5	6
California	1	2	3	4	5	6
Colorado	1	2	3	4	5	6
Idaho	1	2	3	4	5	6
Minnesota	1	2	3	4	5	6
Montana	1	2	3	4	5	6
Nevada	1	2	3	4	5	6
New Mexico	1	2	3	4	5	6
South Dakota	1	2	3	4	5	6
Utah	1	2	3	4	5	6
Washington	1	2	3	4	5	6
Wisconsin	1	2	3	4	5	6
Wyoming	1	2	3	4	5	6

OTHER COUNTRIES

Argentina	1	2	3	4	5	6
Australia	1	2	3	4	5	6
Brazil	1	2	3	4	5	6
Chile	1	2	3	4	5	6
Indonesia	1	2	3	4	5	6
Mexico	1	2	3	4	5	6
Papua New Guinea	1	2	3	4	5	6
Peru	1	2	3	4	5	6
South Africa	1	2	3	4	5	6

*(Repeated for all other factors)

INVESTMENT CLIMATE

1. If you have an example of either a regulatory "horror story" related to operating in a particular jurisdiction or an example of what you would consider an exemplary policy climate, please describe in the space below. Please use the back of this page or attach another sheet if you need more room.

2. What country or jurisdiction do you think has the **most favourable** polices towards mining? _____

Why? _____

3. What country or jurisdiction do you think has the **least favourable** polices towards mining? _____

Why? _____

If there could be one policy change in this jurisdiction, what should it be?

BACKGROUND INFORMATION

What was the value of your 1999 annual exploration expenditures*
(please specify \$US or \$Canadian)

Canada _____	USA _____	Argentina _____	
Australia _____	Brazil _____	Chile _____	Mexico _____
Indonesia _____	Papua New Guinea _____		Peru _____
South Africa _____	Other _____		

Total spent outside the above jurisdictions _____

**Please note that individual surveys are strictly confidential. The information from this question is used to determine the total exploration budgets of all of the companies participating in the survey. If you are uncomfortable giving a specific amount, please give a range.*

2. Are you a Junior or Senior Mining Company?

Junior _____ Senior _____

3. What is your position with the company? _____

What commodity is currently assigned the greatest percentage of your exploration budget?

5. Which jurisdictions, if any, would you like to see us add to the survey next year?

Comments: _____

Thank you for taking the time to complete this survey. Please return the completed survey in the envelope provided, or fax it to (604) 688-8539. If you wish to receive a copy of the survey results, please fill in the response card or attach a business card. Individual surveys are strictly confidential. Response cards will be entered into a draw for a chance to win Cdn\$1000!