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Quantifying Creative Destruction: Entrepreneurship and Productivity in New Zealand

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Abstract: This paper (a) provides a framework for quantifying any economy's flexibility, and (b) reviews the evidence on New Zealand firms' birth, growth and death. The data indicate that, by and large, the labour market and the financial market are doing their job. *JEL* codes: D230, L110, O560

Creative destruction “revolutionises the economic structure *from within*,” Joseph Schumpeter famously said, “incessantly destroying the old one, incessantly creating a new one.” Innovation in business—new goods, new markets, new methods of production, new ways of organizing firms—is the “fundamental impulse that sets and keeps the capitalist engine in motion” (Schumpeter, 1975, p. 82). Does the economy have enough flexibility? Are there barriers in the way of entrepreneurship? This paper develops a framework for quantifying creative destruction.

Applying the framework to New Zealand, I conclude that the sluggish productivity growth of the last fifteen years cannot be blamed on economic rigidities. On the contrary, the data depict an economy with a striking amount of creative destruction.

Ascribing New Zealand's slow growth to a business-unfriendly culture is a misdiagnosis.

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1. Government and Market

Labour productivity in New Zealand grew slowly during the 1990s. A lack of investment was the source of the problem, according to the Treasury, as the capital-labour ratio grew less than in comparable countries (Black et al., 2003). Although productivity growth picked up in the late 1990s and early 2000s, with output per hour of work growing at 1.7 percent per year compared with the previous decade's 1 percent (Buckle et al., 2004), concerns continue to be aired about New Zealand's slippage in the world per-capita income ranks and about the prospects for future growth.

Small population and remoteness might hold growth back. "The death of distance," remark Anderson and van Wincoop (2004), "is exaggerated." Despite the internet, the transaction costs of trading internationally remain sizeable. Firms might be unable to attain scale economies because New Zealand's market is limited and foreign markets are far away (Skilling, 2001). As an explanation for slow growth, however, this is fatalistic. You can't change geography. Australia is a small economy too (with GDP a quarter of California's), and distance from the rest of the world has not prevented it from growing. Are there other sources of slow growth that are less fixed?

Inadequacies in the institutional environment or in policy can bring slow growth. The government impedes markets either by doing things it should not do or by failing to do things it should do. For example, it might obstruct entrepreneurship by setting onerous licensing rules for new firms. On the other hand, an undersupply of financial-market regulation could make it hard for firms to grow.

Historically, obtrusive government was the big issue in New Zealand. Much of the country's slide in the world per-capita income ranks is attributable to the pre-1984 overregulation. Idiomatic interventions hamstrung the economy (Tower, 1979; James, 1986; Evans et al., 1996; McMillan, 1998). Adjectives like "inflexible" and "sclerotic" were commonly used to describe it. "New Zealand was a more distorted and inflexible economy than most other countries that we compared ourselves with," notes Geoff Lewis (2002, p. 5). New Zealanders are indebted to those who, twenty years ago, battled to dismantle an unworkable economic system. That problem having been addressed with the post-1984 reforms, however, we should consider the possibility that, today, the government is neglecting to do some of what it should be doing. Informational asymmetries—lemons-market problems and the like—mean that complex markets need structural underpinnings if they are to work as they are supposed to (McMillan, 2002), which it is the government's task to provide.

The government has put the issue of entrepreneurship on the table. Prime Minister Helen Clark sees one of the "key areas for action" for higher growth to be "creating an environment in which small and medium sized companies can more easily become large companies" (Clark and Christie, 2002). A Treasury report notes that growth requires a business environment "where the incentives encourage enterprise and innovation, where firms seek out and develop profitable new opportunities, and where well performing and more productive firms will prosper, while poorer performers exit" (Treasury, 2004, p. 70). What do the data say? Is growth being held back by obstacles in the way of entrepreneurs?

In the pungently expressed view of the New Zealand Business Roundtable, business has continued to be obstructed, even since the 1980s reforms, by big government. Wolfgang Kasper (2002a, p. 15; 2002b, p. 18) opines that New Zealanders are not “daring to be self-reliant and free” because “benevolent state paternalism” has created “unjustified barriers to entrepreneurial activity,” resulting in “poor growth and a stifling, though comforting serfdom.” Bryce Wilkinson (2001, p. 5) argues, “New Zealand suffers from avoidable and undesirable regulatory excesses.” Roger Kerr (2000) says the “quagmire of regulation” is a “massive deterrent to investment and economic growth.” In some countries, to be sure, regulation has been shown to be very harmful. Where the regulatory environment is unsupportive, productivity is low (Johnson et al., 2002; Klapper et al., 2004). For New Zealand, what do the data say? Is there any evidence that regulation is a “massive” deterrent to investment?

In what follows I will ask how flexible the economy is, assessed by a variety of measures. A quick gauge of flexibility is the number of small firms. New Zealand has more than 240,000 firms with five or fewer employees (MED, 2003, p. 5). Contrary to the contention that New Zealanders are “not daring to be self-reliant,” their sheer number indicates that entrepreneurship is abundant. One out of nine adult New Zealanders runs one of these tiny businesses.

2. Firm Turnover and Productivity Growth

The reallocation of resources from less productive activities to more productive ones via the rise and fall of firms is one of the main sources of any market economy’s

dynamism. Setting up a firm is a kind of search process. Entrepreneurs learn by doing, as new firms experiment with new lines of business. Often the activity is not as profitable as hoped and the firm shrinks or shuts down. Sometimes the market reveals the product to meet a demand and the entrepreneur to be a skilled manager, and the firm expands. The market process rewards the better firms and winnows out the weaker ones.

By simple arithmetic, there are two ways to improve an industry's productivity: raising the productivity of each of the firms in the industry, or holding each firm's productivity constant but increasing the market share of the more productive firms (or creating new, more productive firms) while decreasing the share of the less productive. There would be no need for market shares to change if best practice readily diffused across firms, but to a surprising extent such diffusion fails to occur. Empirical studies in the United States and elsewhere find interfirm productivity gaps to be wide and persistent (Bartelsman and Doms, 2000). In any given industry, output per worker can be twice as high or more in the better-performing firms than in the lesser ones, and the productivity laggards often continue as laggards for years. The skills of a firm's workforce, the size and age of its capital stock and the talents of its managers affect its productivity (though the existing econometric studies of the sources of productivity differences leave a large unexplained residual, so we do not have much understanding of why the differences are so persistent). It is because of these interfirm productivity differences that the turnover of firms measurably contributes to industry productivity. In the United States and Canada, about 50 percent of a typical industry's productivity growth is attributable to firm turnover (Caves, 1998, pp. 1971-75; Haltiwanger, 2002).

One route to higher productivity is a better educated workforce and technological advances, which bring firm productivity gains across firms (Romer, 1986). Another route, with roughly equal potential for boosting industry-level productivity according to the overseas data, is the creation, expansion and shrinkage of firms. In an economy in which firm turnover is blocked, unblocking it could potentially double overall productivity growth.

While the chief effect of firm turnover is to increase the economy's productivity by reallocating labour and capital to more productive uses, there are some caveats. More turnover is not necessarily better. For reasons to do with efficiency or distribution, the level of firm turnover could be too high.

The efficiency concern is that frictions in the labour market or the capital market could result in excessive job destruction. Because information does not flow perfectly freely in the labour market, job seekers and job vacancies coexist, as potentially productive matches between employers and employees fail to be realized. While the laid-off workers search for jobs, output and wages are lost. Firms have no incentive to take these social costs into account when they make their lay-off decisions, and so too many workers might be laid off (Howitt and McAfee, 1987). How the financial market works also matters. If a firm is capital-constrained, as small firms in particular often are, it may be unable to wait out a temporary drop in demand for its product, and so it lays off workers whom it would have kept had it been able to obtain a bank loan.

The distributional concern is that the burden of adjustment is borne by the workers who, though no fault of their own, are thrown out of work when their firms shrink. The severity of this burden is an empirical issue, depending on the duration of

laid-off workers' unemployment and the level of unemployment benefits. Even those not laid off suffer uncertainty about whether they will keep their job. However, the costs borne by the workers bear no simple relationship to the amount of job destruction, for across the economy the amount of job destruction is approximately equal to the amount of job creation (Davis et al., 1996; Gómez-Salvador et al., 2004). In those countries with rapid job destruction there is also rapid job creation, so workers, while laid off relatively frequently, face plentiful new job opportunities and short unemployment spells.

Conversely, countries that legislate against lay-offs reduce job destruction by fiat but also reduce job creation, thus hampering the entrepreneurs' search for better lines of business and lowering the economy's long-term growth.

Since job creation goes hand in hand with job destruction, workers are not necessarily better off where job destruction is lower. If the workers' adjustment burden is judged to be too high, the appropriate policy response, arguably, is not to make it harder for firms to lay off employees but perhaps to address the distributional issue by increasing the level of unemployment benefits or to address the efficiency issue by introducing policies to help those laid off get back into jobs, such as offering retraining opportunities, improving the matching process and lowering search costs.

Firm turnover, then, is simultaneously beneficial, in increasing productivity by shifting resources into their best uses, and harmful, in putting the burden of adjustment on the workers who lose their jobs. In what follows, I will not try to assess whether New Zealand is at the right point in this trade-off: that is, whether the current amount of firm turnover is optimal. Rather, I will test the claim that, as a result of business-unfriendly policies, there are is too little. Is creative destruction being held back?

3. Quantifying Creative Destruction

I will use eleven criteria to measure the economy's flexibility. If policy-makers were to track changes over time in measures such as these, they could get a useful gauge of the economy's health.

- turnover of wealth
- the accessibility of the business sector
- firms' receptiveness to new technologies
- regulatory impediments to doing business
- the amount of job creation and job destruction
- gaps in the size distribution of firms
- the likelihood of growing from small to medium-sized
- the likelihood of downsizing
- the likelihood of becoming large
- hindrances to converting to share ownership
- changes in the list of the top ten corporations

3.1 Turnover of wealth?

A measure of an economy's receptiveness to enterprising individuals is the source of rich people's wealth, inherited or self-earned. How the rich got to be rich affects economic growth, according to Morck et al. (2000). Adding up the wealth of various countries' US-dollar billionaires, self-made and inherited, and correlating the totals with

economic growth, they find that in countries where self-made billionaire wealth is a larger fraction of GDP, economic growth is faster. This is unsurprising, being consistent with the notion of wealth as an incentive for productive effort. More striking, they further find that in countries where inherited billionaire wealth is a larger fraction of GDP, economic growth is *slower*. (They call this the “Canadian disease.”) A preponderance of inherited wealth might result from education being unattainable for the poor, or from financial markets malfunctioning so as to exclude those who are not already established, or from firms staying family-run because the managerial labour market cannot cope with a transition from founder to professional manager. Whatever the reason, entrenching the rich and their offspring is bad for growth.

Is the New Zealand business sector accessible to enterprising people regardless of their upbringing? If we take the source of rich people’s wealth, inherited versus self-earned, as a measure of accessibility, New Zealand looks to be in good shape. Using as the cutoff a net wealth of at least NZ\$10 million, Hazledine and Siegfried (1997) calculate that 74 percent of New Zealand’s rich did not get their start in life from inherited wealth. This is a larger fraction of self-made rich people than in Australia, with 66 percent, Britain, with 61 percent, or the United States, with 59 percent (though a higher wealth cutoff is used for these other countries). If those in banking, brokerage, real estate, business services and personal services are excluded, leaving manufacturing, mining and construction, the ratio drops but is still high, at 63 percent.

New Zealand’s rich tend to be self-made. The belief that those from modest backgrounds can succeed by their own hard work, the creed of “strive and succeed”

associated with the writer Horatio Alger, is central to the American self-image. It seems to be more a reality in New Zealand than in the United States.

3.2 Accessibility of the business sector?

A caveat on the business sector's openness is that members of the various groups in society are not all equally likely to be entrepreneurs. There are discrepancies by gender: 9.3 percent of males are classified as "employers" in the 2001 census, compared with 4.4 percent of females. And there are discrepancies by race: 8.4 percent of Europeans are employers, compared with 7.4 percent of Asians, 3.1 percent of Māori and 1.6 percent of Pacific Islanders (MED, 2003, pp. 25-26). In other words, males are twice as likely to be employers as females, while Europeans are three times as likely to be employers as Māori and six times as likely as Pacific Islanders.

These discrepancies could arise from any of a number of possible sources (Chapple, 2000; Te Puni Kōkiri, 2000; Gibson and Scobie, 2004). Some are amenable to policy, such as disparities in education or in access to information networks. Others are innocuous, such as differences in the number of people of working age relative to children and the elderly. While equality of opportunity is usually discussed in terms of equity, it also has an efficiency aspect, for it can affect productivity. Given the assumption that innate entrepreneurial talent is equally distributed across gender and across race, differences in the likelihood of being an employer could perhaps imply that the marginal female or Māori or Pacific Islander entrepreneur is more talented than the marginal white male entrepreneur (because the latter are further down the talent distribution: on the theory of this link between equity and efficiency, see Loury (1981)

and Bénabou (1996).) If so, the nation's stock of entrepreneurial talent may not be fully utilized, perhaps at some cost to overall productivity growth.

However, the discrepancies in the stock of entrepreneurs are a holdover from the past and, in the case of Māori, may already be on the way to being eliminated, according to a recent survey of entrepreneurs. In the early 2000s, more Māori, as a percentage of their working-age population, started new businesses than non-Māori (Fredericks, 2004, pp. 36-37). Māori were creating firms at a faster rate than the overall firm-creation rate in Australia, the United Kingdom and the United States. The male-female discrepancy persists, with fewer females than males starting new businesses in the early 2000s (Fredericks, 2004, pp. 32-33). Nevertheless, females in New Zealand were creating firms at a faster rate than females in Australia, the United Kingdom and the United States.

While discrepancies exist, the business sector in New Zealand seems to be more accessible than in comparable countries to females and nonwhites.

3.3 Firms' receptiveness to new technologies?

Are New Zealand firms taking advantage of the opportunities offered by new technologies? According to Paul Romer's (1986) growth model, the key to sustainable economic growth is that firms are motivated to invest in new technologies. Innovation raises productivity in any country, but it is especially important when the country is remote from its export markets and the technologies in question improve information processing and communication.

Australia's relatively fast 1990s growth is attributed by some to its ready adoption of the new information and communications technologies (Parham and Roberts, 2004).

As an explanation of the growth differential between Australia and New Zealand, however, this founders on the fact that New Zealand adopted those technologies just as rapidly. Internet penetration—the fraction of the population who are users of the internet—is higher in New Zealand than Australia (Chinn and Fairlie, 2004). The prices charged by internet server providers are lower in New Zealand, as are domain-name registration fees. More web sites and domain names are registered in New Zealand, per capita, than in Australia (Boles de Boer, et al., 2000; Howell and Marriott, 2001).

With online business-to-business exchanges having been set up in the 1990s for export industries such as timber as well as online services running banking, procurement, transportation, etc., New Zealand has been, according to Boles de Boer, et al. (2000, p. 9), “among the world leaders in uptake of electronic commerce.”

3.4 Regulatory obstacles?

Is government regulation a deterrent to business? Regulation could either prevent new firms from starting up or hamper existing firms from operating efficiently. Does it?

The vast number of firms with five or fewer employees, already noted, suggests that the red tape for setting up a firm is inconsequential. New Zealand’s regulatory costs of starting a business are among the world’s lowest, according to Djankov et al. (2002), who describe the procedures for registering a firm as “streamlined.” It takes 3 days to begin operating legally in New Zealand, compared with 2 days in Australia, 4 days in the United States and the United Kingdom, 42 days in Germany and 53 days in France. The data offer no reason for concern about regulatory barriers to entry in New Zealand.

Ongoing businesses face costs of complying with regulations on taxation, worker relations, health and safety, labeling and certification, natural-resource management and so on. In a quarterly survey of small businesses run by the National Bank, regulation is usually the respondents' most cited or second-most cited complaint, with around 20 percent saying it is their biggest problem (National Bank, various dates). Managers everywhere grumble about red tape, however, just as farmers grumble about the weather. Some firms do suffer from high compliance costs. From time to time, a newspaper publishes an article describing a manager being hounded by bureaucrats. (Several such news reports are collected in Wilkinson (2001); the Resource Management Act in particular gives rise to complaints.) Anecdotal evidence is of limited use, though. The firms that get written up in newspaper articles do not constitute a random sample. It is extreme cases that are newsworthy. To judge whether the anecdotes of regulatory intrusion are typical or not, we need data.

How big are regulatory compliance costs in New Zealand? They are small, according to one survey of small firms (Alexander et al., 2004), averaging one hour per week of the manager's time. They are larger, according to another survey (KPMG, 2003), averaging five hours per week for firms with five or fewer employees and thirteen hours per week for firms with six to nine employees. Neither estimate is definitive—the Alexander et al. survey is more thorough but has a small sample, while the KPMG survey relies questionably on the respondents' memories—so which is more accurate is an open question. They suggest, however, that in the smallest firms complying with regulations typically takes up somewhere between 2 percent and 10 percent of the manager's time.

Compliance costs differ markedly from firm to firm in the survey data of Alexander et al. (2004), showing the unreliability of extrapolations from anecdotes about a few selected firms. Does red tape discourage firms from growing? As a firm's workforce expands, according to the data of KPMG (2003), compliance costs rise less than proportionately. Compliance costs fall most heavily on the smallest firms, therefore, suggesting that, if anything, they should serve as an incentive to expand. While red tape might perhaps induce an early exit from some firms, it could push others to grow.

Current or future policy changes could place new impediments in the way of entrepreneurs. In 2004, Roderick Deane warned about a plethora of re-regulation, which he said will bring "reduced flexibility and reduced adaptability for private sector firms" (O'Sullivan, 2004). Fears of a reversion to overregulation should not be assessed by anecdotes, however. The way to assess whether regulation is excessive is by systematically tracking the data.

Red tape is less burdensome in New Zealand than in other countries. A survey by the OECD finds compliance costs per employee to be 40 percent lower in New Zealand than Australia (OECD, 2001, p. 22), and a survey by the Auckland and New South Wales Chambers of Commerce finds them to be 16 percent lower (Read, 2004). A World Bank survey, quantifying the regulatory costs of starting a business, hiring and firing workers, registering property, getting credit, protecting investors, enforcing contracts, and closing a business (World Bank, 2004), finds New Zealand's business rules and regulations to be the least intrusive in the world.

While some firms suffer higher compliance costs than others, the data indicate that regulation is not a heavy burden for the typical New Zealand firm.

3.5 Job creation and destruction?

The primary measure of an economy's flexibility is the amount of job creation and job destruction. In the United States, about 10 percent of all jobs are destroyed each year. Meanwhile, roughly as many are created anew (Davis et al., 1996; Haltiwanger, 2002). Job creation slightly exceeds job destruction some years, and the reverse in other years, with job destruction showing more cyclical variation than job creation. When you think about it, 10 percent of all jobs is an astonishingly big number. In the European Union, turnover is high but not as high in the United States, with 6 percent of jobs being created and destroyed each year. The rate varies from country to country: for example, in Germany it is 4 percent, in France, 5 percent, in the UK, 7 percent, and in Spain, 9 percent (Gómez-Salvador et al., 2004). More volatility is seen in small firms than in large, and more in services than in manufacturing.

In New Zealand, jobs were created at a rate of 18 percent each year between 1995 and 2001 and jobs were destroyed at a rate of 15 percent (Carroll et al., 2002). Another estimate, using data definitions more consistent with the European and United States studies, estimated the rate of job creation and destruction to be just under 12 percent (Mills and Timmins, 2004). New Zealand's job creation and destruction is somewhat more rapid than in the United States and considerably more rapid than in Europe.

Less job destruction—and less job creation—occurs in those European countries with stricter job-protection legislation, a longer duration of unemployment benefits and more wage-setting coordination (Gómez-Salvador et al., 2004). By comparison with Europe, New Zealand's high job turnover suggests that the labour market is not

constrained by regulation. In its job creation and destruction, relative to other countries, the New Zealand economy exhibits a lot of flexibility.

3.6 Gaps in the size distribution of firms?

The firm-size distribution in many countries, especially developing economies, shows a missing middle. There is a lot of employment in tiny firms and quite a lot in large firms but not much in mid-sized firms (Snodgrass and Biggs, 1996). The missing middle is a symptom of weak legal and regulatory institutions. Small firms can survive in an institution-free environment, by using personal networks and ongoing relationships to substitute for missing laws of contract and retained earnings and personal savings to make up for a lack of access to financial markets (McMillan and Woodruff, 2002). Large firms also can prosper without institutions, getting by instead by cultivating political favours. They got to be big in the first place, usually, through knowing the right people. Where the lack of institutions shows up is for small firms wishing to grow. Needing to make discrete investments, they can no longer rely on retained earnings, and may be unable to grow if the financial market is underdeveloped. A symptom of inadequate institutions, therefore, is relatively few mid-sized firms.

Even in industrialized countries, small firms tend to get their finance largely from retained earnings and trade credit (Petersen and Rajan, 1997). There is a “pecking order,” in which a firm exhausts its internal funds before it seeks external funds. An informational asymmetry—the entrepreneur knows the firm’s prospects better than a bank does—puts a wedge between the value of internal funds and the cost of external funds (Myers and Majluf, 1984). If information sources are lacking and investment

uncertainties are prevalent, banks may be reluctant to lend to small firms, preventing them from growing to medium size.

Is there a missing middle in the size distribution of New Zealand firms? The data say there is not. Table 1 shows the percentage of total private-sector employment by firm size (measuring firm size by number of employees). New Zealand has proportionately as much employment in firms with 20 to 99 employees as Australia and more than the United Kingdom and the United States. To judge by the distribution of firm sizes, New Zealand's firms do not seem to be hampered from growing from small to mid-sized.

Table 1: The Firm-Size Distribution

	Firm size (no. of employees)		
	0 – 19	20 – 99	≥ 100
New Zealand	42%	19%	39%
Australia	47%	19%	34%
United Kingdom	30%	12%	58%
United States	28%	16%	56%

The numbers are percentages of total private-sector employment.
Source: MED (2003, p. 27).

3.7 Barriers to growing from small to medium-sized?

Another way of asking whether firms that show initial success face undue barriers to growth is to compute the likelihood of transitioning from small to larger (using data in MED, 2003, pp. 5, 17-18). Among firms that had 5 or fewer employees in 1995, 6 percent had grown by 2002 to have 6 to 9 employees and another 2 percent to have 10 to 19, and another 0.5 percent to have more than 20. By a back-of-the-envelope calculation,

the firms that in grew, in the seven years, from less than six employees to six or more created more than 150,000 new jobs.

Among firms that had 6 to 9 employees in 1995, 21 percent had grown by 2002 to have more than 9 employees and another 3 percent to have more than 20. Among firms with 10 to 19 employees in 1995, 19 percent had grown by 2002 to have 20 to 49 employees and another 2 percent to have 50 or more. Among firms with 20 to 49 employees in 1995, 12 percent had grown by 2002 to have 50 or more employees. On the face of it these numbers do not look low.

The average New Zealand firm still in business four years after its birth has 22 percent more employees than when it started, according to Mills and Timmins (2004). In the United States, firms show much faster growth, with the average surviving new firm doubling its employment in four years. However, new firms grow unusually quickly in the United States, and the New Zealand growth rates are similar to those in the United Kingdom and other OECD countries.

Promising small firms, it would appear, are able to attract the capital and other resources they need in order to grow to medium-sized.

3.8 Barriers to downsizing?

The flip side of the ability of successful firms to expand is the ability of unsuccessful firms to shrink, freeing their labour and capital for other uses. The data on firm transitions (MED, 2003, pp. 17-18) show downward as well as upward flexibility. Among firms with 10 to 19 employees in 1995, 30 percent had shrunk to less than 10 employees by 2002. Among firms with 20 to 49 employees in 1995, 28 percent had

shrunk to less than 20 employees by 2002. Among firms with 50 to 99 employees in 1995, 29 percent had shrunk to less than 50 employees by 2002. Among firms with more than 100 employees in 1995, 14 percent had shrunk to 20 to 99 employees, and another 9 percent to less than 20 employees.

The market winnows out the weaker firms ruthlessly. In New Zealand, by 2 years after founding, 23 percent of new firms have exited; after 4 years, 52 percent have exited (Mills and Timmins, 2004, p. 19). In other words, a startup firm's chance of surviving beyond 4 years is a mere 50 percent. Fast as this attrition may appear, it is comparable to, and actually somewhat slower than, in the United States and in the OECD overall.

These data do not allow us to judge whether the current amount of downsizing is optimal, but they do at least suggest that there is no major barrier to downsizing.

3.9 Barriers to becoming large?

Are there impediments to medium-sized firms becoming large? More than mere growth, turning into a large firm entails metamorphosis. A large firm is qualitatively different from a small or medium-sized firm. Instead of being owned by an individual or a partnership, it (usually) has share ownership. Instead of all decisions being made by the owner-manager, decision-making is delegated down a managerial hierarchy. Growth means the organization becomes inherently more complex. Trust becomes needed. The owners must trust the top manager to pursue their interests, and the top manager must trust middle managers to make the right decisions. Finding good managers requires an effective managerial labour market, while sustaining an efficient level of trade in stocks requires financial markets to have reached a degree of sophistication.

The data on firm transitions suggest New Zealand firms face no blockage to getting beyond 100 employees. Among firms with 20 to 49 employees in 1995, 2 percent had grown by 2002 to over 100, and among firms with 50 to 99 employees, 22 percent had grown to over 100 (MED, 2003, p. 18). Each year about 70 firms, employing about 1 percent of the total workforce, grew from less than 100 employees to more than 100.

While there seems to be no barrier to passing the 100-employee mark, conceivably there is a glass ceiling to firm growth at some higher number of employees. (100 employees is a low cutoff for “large.”) Small and medium-sized firms seem to have been the focus of much of the policy analysis up to now. (Note for example the NZ Treasury’s report (2004, p. 71), which discusses the financial market only as it affects small firms, and Helen Clark’s statement, cited above, of the need to make it easier for small and medium-sized firms to grow.) The evidence on firm transitions cited above suggests, however, that the small-and-medium sector is in fact in reasonably good shape. Perhaps it is time to focus the policy analysis on New Zealand’s largest firms. Most of the data collection up to now has examined small and medium firms (for example, MED, 2003), so collecting more data on large firms could be useful. The question of whether large firms face institutional or policy impediments to growth and efficient operation warrants further empirical research.

How productive are New Zealand’s large firms? After reviewing the available evidence on the largest firms, Simmons (2004) concludes that they have been performing poorly, measured by value added or return on assets; he called this poor performance a “mystery.” In their ability to create shareholder value, according to Healy (2000), the

largest firms have been “hugely disappointing,” which he attributes to agency costs and “a lack of focus on managing shareholder wealth on the part of management.”

One possible reason for large-firm underperformance is a shortage of managerial talent. However, this might be just a temporary shortage. The skills asked of a top manager in the pre-1984 protectionist economy were distinct from those needed in a competitive global marketplace. In the old economy, success came from negotiating favours from the government. Understanding how to compete was not the issue, for the government sheltered its chosen firms from the inconveniences of competition. As the industrialist Alan Gibbs describes (with a little hyperbole), “Every area of our economy was licensed and if you had a licence you were protected and no one could break into your market” (Russell, 1996, p.12). Nowadays, managers must know how to plot competitive strategies. For the new breed of manager to develop expertise and rise to the top could take a decade or two, and this could explain why large firms have been slow to show post-reform gains.

A second possible reason for large-firm underperformance is the smallness of the New Zealand market (Skilling, 2001). A firm may be condemned to producing below minimum efficient scale unless it exports to some larger markets, and there may be barriers to moving into exporting. The direct costs of exporting—transport costs and tariff and nontariff barriers—are roughly proportional to the quantities traded, but there is a fixed-cost component to other trade costs, like language barriers, different currencies, contracting insecurities, and learning about foreign demands and how to do business overseas. Trade costs are especially high for differentiated goods with scale economies (Anderson and van Wincoop, 2004). The internet may have reduced trade costs but it has

not eliminated them. Most New Zealand firms do not export. Among with an annual turnover of at least \$30,000, just 4 percent are exporters, and just 10 percent of those exporters account for 95 percent of exports (Simmons, 2004). The costs of selling overseas could inhibit firms from exporting and thus from growing to an efficient scale.

Conversely, in an industry that has substantial transaction costs of trading internationally, the local firms may face little competition in the domestic market from overseas producers. If in addition the industry has scale economies, there is room for only a few local producers. Lacking competitive discipline, the firms in such an industry may have little incentive to improve their productivity. (Even if the relevant market is Australia plus New Zealand, the same point applies. A market of 24 million people is not large relative to the minimum efficient scale of some industries.)

A third possible reason for the large firms' poor performance, to be considered next, is frictions in the financial market.

3.10 Financial-market frictions?

For shareholders, second-guessing managers' decisions is not easy, for they lack information about the firm's affairs. The informational asymmetries can cause lemons-market problems to arise (Ausubel, 1990; McMillan, 2002, Ch. 13). Fearing their money will be mismanaged, investors may become reluctant to buy stocks, with the result that the stock market is less active than it should be and firms may be unable to acquire the capital they need to grow. In many countries, lax financial-market oversights allow controlling shareholders to expropriate minority shareholders (Johnson et al., 2000).

Financial-market rules and regulations help limit the distortions from the separation of ownership and control, thus protecting the property rights of minority shareholders. Countries that have effective financial markets rely on the oversight not only of the courts but also of a regulator like the US Securities and Exchange Commission. Even Alan Greenspan, by the way, now concedes this point. In 1966, as a disciple of Ayn Rand, he believed regulation was uncalled for because “it is in the self-interest of every businessman to have a reputation for honest dealings.” Warning against the perils of regulation, he said, “In a free economy, the government may step in only when a fraud has been perpetrated ... the only protection required is that of criminal law” (Greenspan, 1966). In 2002, after the scandals of Enron, WorldCom and the rest, he changed his mind, saying, “Our most recent experiences clearly indicate ... that adjustments to the existing structure of regulation ... are needed.” A regulatory agency supplements the courts because it offers “rule-making flexibility” (Greenspan, 2002).

In a 2002 article in the *New Zealand Herald*, Minister of Commerce Paul Swain attributes low economic growth to the government’s not doing enough. To get New Zealand back into the top half of the OECD, a “healthy, effectively regulated [stock] market, enjoying the confidence of investors and in line with international norms, will be critical.” In New Zealand, “securities laws do not work as effectively as they should. Our insider trading laws are lax and the institutions regulating the market do not have adequate power to ensure the laws are effectively implemented.”

If the rules governing the financial market are inadequate, shareholders’ property rights are unprotected, and so firms may be hindered from getting the finance they need

to convert themselves from medium-sized to large. Are there gaps in New Zealand's financial-market regulation? The evidence is mixed.

In a comparison of investor protections across the industrialized countries, La Porta et al. (2002) calculate, as a rough proxy for investor protections, an "index of antidirector rights," reflecting the ease with which shareholders can vote for directors as well as the existence of grievance mechanisms for shareholders. This index (with a higher number representing stronger protections) scores the United States and the United Kingdom 5, Australia 4, France 3 and Germany 1. New Zealand's score is 4. An OECD study of financial systems (Leahy et al., 2001) compiles a summary measure of investor protections, reflecting the effectiveness of disclosure rules and enforcement as well as shareholder and creditor rights. With a higher number meaning stronger protections, the United Kingdom scores 0.86, Australia 0.60, the United States 0.42, Germany 0.23 and France -0.61. New Zealand's score is 0.66. It would be incorrect to conclude that New Zealand could not improve its rules; more research on the details of the current rules is doubtless warranted. By these measures, though, in the 1990s New Zealand was protecting its investors as stringently as most of the other industrialized countries.

On the other hand, some measures suggest that all is not well in the financial market. One is the ownership of large firms. New Zealand's companies tend not to be widely held. Looking at the 20 largest publicly traded firms in industrialized countries, and defining "widely held" to mean no single shareholder has more than 20 percent of the voting rights, La Porta et al (1999, p. 492) calculate that in the United Kingdom 100 percent of the largest companies are widely held, in the United States 80 percent, in Australia 65 percent, in France 60 percent and in Germany 50 percent. In New Zealand,

by contrast, just 30 percent of the largest companies are widely held. Examining family ownership, again using the 20 percent cutoff for control, they find that in the United Kingdom none of the 20 largest companies is family controlled, in Australia 5 percent, in Germany 10 percent, in France 20 percent and in the United States 20 percent. In New Zealand, 25 percent of the 20 largest companies are family controlled.

A further indication that trade in stocks is not as active as it might be is in stock-market capitalization. The total capitalization of the New Zealand Exchange is about US\$45 billion, less than that of many individual corporations overseas. (For comparison, the New York Stock Exchange's tenth-largest company, Procter and Gamble, has a market capitalization of about \$130 billion.) In 2002, according to the World Federation of Exchanges, market capitalization in New Zealand was 32 percent of GDP. While this is similar to Germany and France, it is far lower than in Australia, 92 percent, the United States, 105 percent, or the United Kingdom, 111 percent.² Relative to the economy, the UK, US and Australian stock markets are three times as large as New Zealand's.

Further research is warranted on firms' propensity not to convert themselves to share ownership and, among those that do convert, to have concentrated ownership.

3.11 Changes in the top ten corporations?

Turnover in the list of a country's largest corporations is related to economic performance, according to data in He et al. (2003). With initial per capita GDP, education level and capital stock held constant, economic growth is faster in countries with more turnover on the top-ten list. Greater instability among the largest corporations is associated with faster productivity growth and more investment. The economy

² <http://www.world-exchanges.org/publications/INDICATOR503.pdf>

performs well where new firms able to rise to the top; it performs badly where established firms are entrenched. The causality could go either way. Fast-growing firms could drive economic growth; or the inability of new firms to rise to challenge the established corporations might be a symptom of deeper market rigidities. Turnover matters for growth, then, at the level of not only the smallest firms but also of the largest.

Are there barriers to reaching the top of the New Zealand corporate sector? One piece of evidence suggests not. In New Zealand, just three of the ten largest companies (by employment) in 1975 were still in the top ten in 1996. For comparison, two companies stayed in the top ten from 1975 to 1996 in the United Kingdom, four in France, five in the United States and Australia and seven in Germany (He et al., 2003). A caveat: this period includes the deep deregulation and privatization of the 1980s, so these data may overstate the current amount of fluidity. Nevertheless, New Zealand has seen considerable turnover at the heights of the corporate world.

4. Markets Are Doing Their Job

To achieve economic growth, to repeat the passage already quoted from the Treasury report, “the business environment must be one where the incentives encourage enterprise and innovation, where firms seek out and develop profitable new opportunities, and where well performing and more productive firms will prosper, while poorer performers exit.” The evidence on firm turnover shows that these conditions already characterize New Zealand. Contrary to the perception of an economy held back by business-unfriendly policies, New Zealand has plenty of creative destruction.

The data depict a nation in which enterprise flourishes. One in nine adult New Zealanders runs a firm with five or fewer employees. Barriers to entry being low, new firms start up at a rapid clip. Entrepreneurs are able to succeed by their own efforts, without having to rely on inherited wealth. In each year, many firms disappear and many grow. There seem to be no major barriers to growth or shrinkage, so those firms that are revealed to have poor prospects shrink or shut down, while those that have a marketable product and are well managed expand. For large firms the evidence is less clearcut, and further empirical research is needed on their apparently limp performance. (Is it the financial market? The managerial labour market? Geography?) The list of the largest firms does, at least, show flux. One of the most fundamental of all market processes, the ebb and flow of firms in New Zealand seems to be unrestrained.

The conclusion that barriers to entrepreneurship are inconsequential leaves the 1990s' low aggregate investment unexplained. It does suggest, however, that the productivity upturn of the late 1990s and early 2000s, observed by Buckle et al. (2004), might be sustainable over the longer term. The disappointing productivity growth of the 1990s might perhaps have been nothing worse than a delayed response to the reforms. The slowness of the reform response doubtless reflected the extreme depth of the preexisting economy-wide distortions. The slow response further came, arguably, from systemic effects (McMillan, 2004). Reforms complement each other, in ways that are hard to foresee, so each separate reform may be ineffective until its complementary reforms have had time to take hold. Given the diagnosis that the malady is transitory, no major change in policy is prescribed.

As the saying goes, “If it aint broke, don’t fix it.” Although for the largest firms there is a question mark, for small and medium-sized firms the current evidence on firm turnover, to my reading, calls for neither more government action nor less. By and large, New Zealand’s labour market and financial market seem to be doing their job.

Sluggish productivity growth in New Zealand dates back as far as the 1960s. It may finally be a thing of the past.

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