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The Clock Is Ticking

by Murray McLeod-Boyle

WITH THE APPROACH of the new millennium drawing closer, it will not belong before we here a chorus of prophecies about what will happen with the dawn of the year 2000. These prophecies will be many and varied, as will the reaction to each one.

One of the current predictions concerns our computers and has come to be known as the Millennium Bug, or Y2K. In essence this "bug," which is a programming error rather than a typical computer virus, threatens to disrupt our lives in a very severe way. Imagine the possibility of empty supermarket shelves, empty petrol bowsers, no utilities etc. Of course, no utilities means: no hot showers, no water to flush the toilet, no heaters, no airconditioners, no streetlights, no annoying telephone calls; no outgoing telephone calls—even if it is for an ambulance. The upside is that you won't need a supermarket, because you will be without a stove to cook with; a washing machine to wash with—I think you get the picture!

The Millennium Bug

What is the Millennium Bug? Peter de Jager explains:

After December 31st 1999, computers won't know what year it is ... We programmed computers to store the date in the following format dd/mm/yy. This means that we've allowed ... only 2 digits for the year (yy). Can you see the problem? Some examples might help. I was born on January 23rd, 1955. So we store that

information in the computer as 23/01/55 ... When we get to January 1st 2000 we'll store that information in the computer as 01/01/00 ...

We've told the computer to assume that 23/01/55 means 23/01/1955... What will it assume 01/01/00 means? It will assume that 01/01/00 means 01/01/1900 or January 1st 1900. That's it. That's the problem. The computer ... will think that all 'dates' past December 31st 1999 are 100 years in the past...

I was born on January 23rd 1955. If I ask the computer how old I am, it subtracts my birthdate from the current date. So it'll perform a calculation similar to 96-55 ... and gives me the answer of 41 years old ... On January 1st 2000, the calculation will be exactly the same. Subtract my birth year from the current year, 00-55 and the computer will loudly and proudly proclaim that I'm -55 years old.¹

2. Consequences

A. Immediate

The turning of a computers date system back to 1900 will cause two immediate problems: The computer will fail or it will spew out corrupt data.

B. Long Term:

The long term effects of the MB are hard to list because we are unsure of the extent to which computers will crash or play up. Suffice to say that electricity, water, supermarkets, telephones, and a host of other things, are

governed by computers—computers that may fail in 2000. Essentially, the impact will come down to the, as yet unknown, answer to the equation: how many computers will fail x how long will they be down x what critical systems do they control.

Most analysts believe there will be an impact, the unknown is how bad will it be, and how long will it last.

3. The Impact

Edward and Jennifer Yourdon have written a book, *Time Bomb 2000*. In the Preface to their book they write:

A majority of the Y2000 problems will be of the minor variety, though there could well be some "minor" problems that render such critical systems as banking, telecommunications, and utilities inoperable for a few days. We also believe that a significant minority of the Y2000 problems—perhaps as great as 25-35% — will be of the "moderate" variety, causing failures that will take a month to solve ...

Unfortunately, ... a small percentage—perhaps in the range of 5-10%—of the Y2000 problems could be of the "serious" variety, i.e., requiring a year to repair ... A hurricane usually lasts for only a day, but the hurricane recovery can easily take a year if the damage is extensive ...

Finally, ... a very small percentage of Y2000 problems could be sufficiently devastating that it could take a decade to recover.²

1. Peter de Jager, *You've got to be Kidding!* first published January 10, 1997.

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4. The Quick Fix

When people first hear of the MB, the initial reaction is disbelief followed by a 'why don't they just fix it?' The problem at this point is two-fold.

In the first instance, we are dealing with hardware. Many computerised items rely on microprocessors or imbedded chips. These can range from missiles to satellites and from power stations to concrete plants.

Take the following example supplied by the Government:

Problems can occur in some microprocessor based equipment such as computers, digitally controlled plant and machinery, and control systems when the year 2000 arrives ...

Within computer systems the problem can be identified easily and corrected through painstaking software correction. Unfortunately in systems for water treatment, medical imaging or patient monitoring, security and building control it ... is often not

known how the system will behave in the Year 2000.

Another Year 2000 issue arises with the purchase of services or the awarding of contracts to supply products or services beyond 1999. Even though the product being supplied may be compliant the supplier may be unable to meet their obligations to supply if their manufacturing systems and/or order processing systems fail. In fact failure can occur at any point in the supply chain.

Take concrete delivery as an example ... A truckload of concrete does not appear to have any dependency on computers, however if the process is followed through there are myriad points of reliance on computing ...

Can the supplier's financial system accept the order? The truck has a tachometer on board. It controls how fast the truck goes and when it gets maintenance. It calculates that the truck has not been serviced for 99 years and refuses to start. The plant is controlled by microprocessors which calculate dates. One concrete plant that has been tested failed when the year 2000 was simulated. The weighbridge is controlled by date sensitive microprocessors most of which are not Year 2000 compliant. It encounters a traffic jam - 200 trucks backed up at an RTA weighbridge which has inexplicably stopped working. The newest bowsers contain year 2000 compliant microprocessors - most don't and may simply stop pumping.

... almost anything that moves, processes or measures is controlled by embedded microprocessors; factories, sewerage plants, supply systems for water, gas and electricity, lifts, air conditioning, lights and security systems.

... Although the failure of a single piece of plant or equipment may not appear to be particularly significant ... the most unusual aspect of the Year 2000 compliance problem is that all Year 2000 failures will occur at the same time. The plant or equipment will not be down for a day or two but for many months due to a predicted

shortage of resources to rectify the problems.³

As far as programmes are concerned they are, at least in theory, easier to deal with, but there are still significant obstacles. In the first instance there is the cost. One large bank in the USA has 400,000,000 (four hundred million) lines of code on its main frame computer. Some estimate the cost at \$1.00 per line to search and repair, and if this is accurate then the cost soon adds up. Current estimates are that the fix cost would be in the order of \$600 Billion US world wide.

Then there is the potential shortage of programmers⁴ and most significantly the shortage of time. You see, one of the biggest tasks, besides finding and correcting dates, is actually testing the computer once repairs have been made. Time is critical. Time is of the essence. Time is what most people are out of. Many have set cut off points by which repairs have to be made, not started but made.⁵

As a guide, let us look at the American, Social Security Department. The DSS has been working on the MB since 1991 and they hope to have their machines operational in 1999 so that a year of testing can begin. They have used a team of about 400 programmers and they have, to date, completed 80% of their task.

If nothing else this should illustrate the magnitude of the task at hand.

Now, what of those large organisations that have 100 million + lines of code and who did not start until 1995 or later?

What does this all add up to?

5. Case Scenarios

Best Case Scenario

This would basically entail minor hiccups and shutdowns that would last for days, weeks and a month at the longest. It may mean that you would need to be self sufficient for a little while; or that you would escape untouched by any problems.

- Edward Yourdon and Jennifer Yourdon, *Time Bomb 2000: What the Year 2000 Computer Crisis Means to You!* The above quotation was taken from the preface to the book, which is available on the internet at <http://www.yourdon.com/index.htm>.
- <http://www.y2k.gov.au/resources/html/compliance.html>. (Emphasis added) This last point is well worth noting. In general, disasters strike localised areas which means that outside, unaffected, resources can be called upon. Consider the power grid in New Zealand. Australians were called upon to lend their expertise. However, if disaster strikes everywhere at the same time, extra resources will simply not be available.
- Some estimate that the USA is short about 500,000 programmers — <http://www.washingtonpost.com/wp-srv/frompost/features/mar97/2000.htm>.
- "The interesting thing about this is that almost every organization could have fixed its year-2000 problem if it had begun addressing the problem in 1995 or before. But if the year-2000 conversion team is just forming now, in mid-1997, then the conversion almost certainly won't be finished when New Year's Eve rolls around two years from now." Ed Yourdon, *The Personal Consequences of Year 2000: The Yourdon Report*, Vol. 1, No. 4, June 1997. © Copyright 1997 by Cutter Information Corp. Available at <http://www.cutter.com/ads/tyr0697.htm>.

Under this scenario, disruptions would be scattered and intermittent, meaning that whilst part of a town may suffer difficulties, another part may not.

Worst Case Scenario

In the event of a total failure, it could well mean your life is jeopardised.

In a worst case scenario, you could well expect a total or (major) partial shut down of all utilities and difficulty in obtaining basic food stuffs. You do not need to be a rocket scientist to work this out. Simply sit down with pen and paper and do the following: 1. Write down the utilities that you have in your house, and 2. Work out what utility each appliance in your home is dependent upon. (As an alternative, turn off your electricity at the meter, and then try and conduct your daily business.)

For example, my house has gas, electricity, water and telephone. If these collapsed in some way, I could not make phone call. What about washing? Well, my washing machine is dependent upon electricity (to work the mechanics), water (to wash the clothes), and gas (to heat the water). Therefore, if one or more of these utilities fail a simple task like washing becomes almost impossible.

In the case of supermarkets, the loss of refrigeration because of the failure of utilities would mean that most fresh or frozen produce would spoil in a matter of days. If their ordering computer crashed then new stocks could not be ordered in. If fuel was in short supply, trucks may not be able to run even if orders could be processed.

6. Reality Check

SOME ARE PROBABLY FINDING such a scenario very hard to swallow. 'It just couldn't happen to us,' you say. 'After all, we live in developed countries.' 'It's just not possible!'

Okay, let's look at the potential for our society to plummet into this type of crisis.

Several months ago there was a little hiccup in the Asian economy. Millions were lost off the stock market and there were four long days in which people held their breath as they

awaited the final outcome. A few months on and we are beginning to see the ramifications of the Asian economic meltdown. Companies have gone broke. Workers have been retrenched. Food is in short supply and riots have broken out.

Finally, after months of denying that the Asian meltdown was going to affect Australia, the Federal government is starting to admit that there will be (severe) ramifications here.

What this shows is that people are very susceptible to economic downturns. Australians are fooling themselves if they believe that they are exempt from this same type of happening.

It has been said that 'any society is three meals away from anarchy.' The recent events tend to agree with this. What about Australia? What are the 8% unemployed going to do if their dole payments don't arrive? What are all of Australia's professional spongers going to do when their social security payments are not made?

All this adds up to "potential".

On the purely practical side, consider the recent happenings in Auckland, New Zealand:

The CBD's power comes through four ageing 100kVa cables ... Through a combination of circumstances ... one failed and the load then transferred to the others caused a chain reaction with the others failing consecutively very shortly thereafter. So for the last two weeks, the CBD and its inhabitants of office towers up to 30-stories high have been without reliable or consistent mains power. Cafes and restaurants can't operate, small retailers have set up street stalls, there's no lighting, no air-conditioning, no lifts, no power to pump water to flush toilets at the higher levels, no traffic lights, and so on ...⁶

This example is timely in that it clearly demonstrates how helpless we become when our own technology fails us.⁷

What we have talked about is more than possible—even for our, supposedly impervious, western society — if the conditions are right.

Meltdown

by Ian Hodge, Ph.D.

What has been described as the "Asian Crisis" has spread its wings. Recently, the stock exchange in Sao Paulo has been closed after the market dropped 10% during the day. The Malaysian government has initiated control of the currency exchange markets, so far with little success. Governments are worried. And so they ought to be.

The former Soviet Union is proving a major economic disaster area. In a single day, one billion rubles were printed by the government (equivalent to about US\$60 million at the time). Cities in parts of Russia have initiated price controls. Russian citizens refuse to hold their own currency and seek to exchange into foreign currency.

What do these events around the world have in common? Government control and manipulation of money, or, as the economists and politicians prefer to tell us, they must exercise monetary and fiscal policy.

Such controls and manipulation of the money supply have resulted in the boom conditions of recent years. It has, at the same time, created the environment for poor business decisions. Businessmen and women have seen the extra money as a sign of increased demand when, in reality, the demand was only valid while the prices remained at the old levels. Once price levels increased to compensate for the new money, businesses found reduced demand for their output. This resulted in the bust section of the boom-bust cycle.

Boom and bust cycles can happen in any industry. They are governed by such things as weather or availability of raw materials. But these are confined to local areas. Here, on the other hand, we are seeing a global downturn, and a global downturn requires a different explanation. Global downturns are not caused by lack of rain in one region or by the unavailability of the materials needed for production in other areas. Global downturns are caused, however, by businessmen receiving wrong signals about demand.

It is the ability to predict with some degree of accuracy the potential demand for goods and services that

6. Mercury - was Quicksilver, now Longblack - and the Y2K bug, by Ross Stewart. Auckland, 6 March 1998. <http://www.year2000.co.nz/y2kprs19.htm>
7. Consider also the recent gas problem in Melbourne. A main gas line was blocked by a large piece of ice which shut down or severely restricted many large industries.

7. What Does the Australian Government Think?

It has taken a while, but the Government has begun to raise the alarm as well. On their Y2K website they ask, 'could lives be at risk?' Answer: Not to be too dramatic about it - YES.

We must ensure that we have contingency plans in place in case essential infrastructure such as telecommunications, gas, electricity and water are not able to be delivered. The dial tone missing for just 24 hours would place people's safety at risk.

OGIT is working with Emergency Management Australia ... to ensure that Year 2000 contingency planning is in place should utilities and/or emergency services have problems at the turn of the century.⁸

When a Government finally gets this frank then it means that there is something to worry about.⁹ This then means that we must look at alternative survival methods in order to come through this looming crisis.

By the way, if you think this is a little dramatic, please, consider the following:

The Government has run out of time to fix its year 2000 problems and will not be prepared by January 1, 2000, according to the head of its millennium bug awareness program.

Mr Inchley said the best Canberra could hope for was to fix its most critical systems and put up "work arounds" for the others ... "There will be areas of Government that will not be year 2000 compliant and we need to be prepared to put work arounds in place. This is a very serious problem indeed."¹⁰

All in all, one may say that 'things are not all rosy in the garden.'

So, where is Australia in terms of compliance? Well, to tell the truth, that is very hard to establish. The reason for this is that most corporations/companies are not openly admitting to the basics. Companies that have MB programmes are tight lipped about what stage their operation is at.

Therefore, starting with the Government, let us try and build a picture of Australia's position.

8. Government

IF WE ANALYSE the comments made by Mr Inchley above we will see several things. First of all, it tells us there is a problem. Secondly, it tells us that it is a significant predicament. Thirdly, it tells us that the impact may be felt in our lives.

Mr Inchley would not make a statement like this if it were not true. The political fallout would be massive if a Government official made statements like this without justification. Furthermore, it is typical of bureaucrats to overstate or understate the case depending on the issue. The Asian meltdown was not going to affect Australia, so the Government said. Then when the evidence contradicted the statement there was a tacit admission that it might affect us, followed by the actual admission. The MB is no different. Mr Inchley has made a statement that is non alarmist, but which can be said to fit the picture, hence guarding against a backlash from either side.

The acknowledgment then, basically goes like this: 1. There is a looming crisis. 2. We will not be compliant. 3. The best we can hope for (maybe) is to have all mission critical systems compliant (no guarantee). 4. Leaving the prospect that non critical, non compliant, systems will fail. 5. Hopefully, these will not corrupt the compliant mission critical systems. 6. This being the case, skip trying to fix non critical systems and order a lot of mops for the clean up process.

This is the (understated) position of the Federal government.¹¹

In short the Australian government has acknowledged that we have a problem. I prefer to say we are facing a crisis.

9. Business

THREE OF OUR BIGGEST BANKS mention the MB, but once again

drives the business community. If this ability is lost, or proves very poor, then the decisions made will correspondingly contain a higher level of inaccuracy.

The Russian government's attempts at stimulating the economy by printing money is doomed to failure, since most people know that expanding the money supply is what causes prices to rise. Temporarily, it gives an illusion of prosperity. New money allows people to bid for goods they might not have purchased without the extra money placed into their pockets. Once price levels rise, they readjust their purchasing to former levels and the demand created by the new money evaporates.

This is what has happened around the world. Japan's enormous growth over the past decades was not only achieved by manufacturing superior goods, which they did well. But it was also fuelled by an increase in the money supply through the use of credit. The 100-year mortgage is evidence of this. This is also why the banks are in jeopardy. Fractional reserve holdings, the necessary environment to expand the money supply through credit, place all the banks at risk, the risk being borrowers who can no longer afford to repay the loans.

This is the "Asian Crisis." An inability on the part of borrowers to repay that which they have borrowed, fueled by a drop in the demand for goods and services. The tragedy is that so many people have to be hurt in this crisis when the political leaders throughout the world have in their hands the means to prevent such occurrences.

Alan Greenspan, head of the United States Federal Reserve System, recently pointed out that when economies were managed less and when money was gold and silver, its supply thereby beyond the tampering of politicians and demagogues, the market managed economic fluctuations better. According to Mr Greenspan,

Investors will, on occasion, make misjudgments, and borrowers will, at times, misread their capabilities to service debt. When market prices and interest rates adjust promptly to evidence of such mistakes, the

8. http://www.y2k.gov.au/resources/html/online_q_a.html (Emphases added. Capitals in original).

9. Recently, the Government has started a series of Millennium Bug television commercials.

10. Stan Beer, *It's too late to fix it, says Y2K bug chief*. Financial Review, Wednesday, March 11, 1998. Available at: <http://www.afr.com.au/content/980311/inform/inform1.html> (Emphases added). "It only takes 10 per cent of Australia's small businesses to fold at one time to bring on a recession. There is a strong possibility that the figure will be much greater than 10 per cent because of the failure of small business to act. We're not just talking recession but major economic meltdown." "According to Mr Inchley, *big businesses have also run out of time to fix their year 2000 problems if they do not already have comprehensive programs in place.*"

11. The tax concessions given by the Government for MB repairs also points to the fact that they are worried. As does the appointment of Mr Newman as the new leader of the Governments initiative. Mr Newman is also chairman of the ASX, which would indicate that it has become the channel through which the Government moves. One more way to act without causing alarm.

they do not give specifics on the task in front of them. Hence, we are once again forced to read (competently) between the lines.¹²

A. Westpac: Westpac, like the others, admits there is a problem, but tries hard to play down any real and lasting consequences, stating: "the actual degree of disruption is unpredictable, with the level of potential disruption varying from absolute chaos to minimal disturbances. ... It's surprising just how many appliances and everyday devices around us today have computer chips in them, or use computer programs as part of their control mechanism ... fax machines, VCR's, air conditioning and security systems, bank ATMs, PABX's and lots more. Many Year 2000 experts are trying to determine what might happen to these devices ... Lifts might assume they haven't been serviced for 99 years and cease to operate. Cars might not be able to work out when the next service is due. Traffic lights on 1 January 2000 (a Saturday) may move to Monday phasing (1 January 1900 was a Monday)."¹³

So Westpac is aware of what maybe affected. The question then is, What is Westpac doing? Under, this very title, they say: "Westpac first started work on assessing and resolving the Year 2000 Challenge in the early 1990s. As the potential size and complexity of the Year 2000 Challenge emerged, Westpac has continued to make assessments of the total impact, while at the same time managing the continuing introduction of new information technology and innovative products for its customers.

"From October 1996 there has been a formal project devoted to the resolution of these Year 2000 issues as they affect Westpac."¹⁴

Let us analyse this announcement. First of all, look at the ambiguity in the dates. The "early 1990s" is a fairly vague date. When was it exactly? Time scales are important in assessing the MB, for, as we saw earlier, some believe it is already too late. Now the question that arises here is, if the assessment began in the early 1990s, say

before 1993, why was the "formal project" not launched until October 1996?¹⁵

This question is partly answered by the words, "the potential size and complexity of the Year 2000 Challenge." In other words, Westpac was totally unprepared for the size of the task that lay before them. When they started probing, they had little or no idea about what was going to "emerge".¹⁶

B. ANZ: The ANZ bank also shows that it is aware of the potential, warning that we could expect failures in:

Central heating and air conditioning controls
Bar coding
Use-by dates
Personal computers and calculators
Security systems
Internet and email interfaces
Accounting packages
Stock market trading packages
Tailor-made software
Inventory control packages
Video cameras and recorders
Time and date logs on fax machines
Motor vehicles
Lifts
Manufacturing plant
Heavy machinery (e.g. mining equipment)
Assembly lines, especially those with robotic parts

Continuing, they add:

Many people focus on 1 January 2000 as the date when problems will affect us. However, the Year 2000 is already causing problems all over the world. Here are some actual examples (taken from *The Age*, 9 September 1997):

Medicine shipments have been rejected and destroyed, because the computer that checked the expiry date thought that products expiring in '00' were out of date.

Some prisoners were released early, because their release date was in 2000, which was recorded as '00' on the prison's computer system. The system calculated that the prisoners should have been released almost one hundred years ago, in 1900, and it printed release orders for them.¹⁷

Fortunately, they also outline some of the pitfalls to be aware of when mounting an MB project. Their advice:

Allocate adequate resources to complete the project. You may need

consequences of the mistakes are generally contained and, thus, rarely cumulate to pose significant systemic risk.

"There was some evidence of that process working in the latter part of the nineteenth century and early twentieth century when international capital flows were largely uninhibited. Losses, however, in an environment where gold standard rules were tight and liquidity constrained, were quickly reflected in rapid increases in interest rates and the cost of capital generally. This tended to delimit the misuse of capital and its consequences. Imbalances were generally aborted before they got out of hand. But following World War I such tight restraints on economies were seen as too inflexible to meet the economic policy goals of the twentieth century. . .

"In the late twentieth century, however, fiat currency regimes have replaced the rigid automaticity of the gold standard in its heyday. More elastic currencies and markets, arguably, are now less sensitive to and, hence, slower to contain the misallocation of capital. Market contagion across national borders has consequently been more prevalent and faster in today's international financial markets than appears to have been the case a century ago under comparable circumstances."

That the nations of this world believe they must control the money supply is their achilles heel. They can no more manage the money supply than they can manage to tell us just exactly how many shirts will be purchased next week. The difference is that incorrect forecasting of the money supply has greater consequences than badly guessing about the number of shirts to manufacture. One decision affects shirt buyers and manufacturers, while the other affects everyone in the economy.

Meanwhile, in places such as Russia, people are looking for a return to

12. There is one blurb which is posted by these banks, which is just a cut and paste, put in your own name where applicable job — gives you a great sense of deja vu. As the Commonwealth Bank basically only has the 'blurb', we will not look at what they have to say.

13. <http://www.westpac.com.au/>

14. <http://www.westpac.com.au/> (Emphasis added).

15. Last year the Australian Stock Exchange (ASX) issued a directive that all listed companies inform them of the state of any Y2K projects. These reports were to be with the ASX by June 30 this year. In Westpac's response the state that: "Westpac has been aware of the Year 2000 issue since 1991." <http://www.westpac.com.au/>

16. It is also worth noting that the massive losses suffered by Westpac in the late eighties and early nineties probably meant that they did not have the capital or credit facilities to launch a major fix project.

17. <http://www.anz.com/y2k/2Memoryf.htm>

more time, money and staff than you think. For example:

You might have to repair or replace equipment, resulting in unexpected demands on cash-flow or lines of credit.

You might need to put a great deal of management time into resolving unexpected Year 2000 issues, such as supplier failure.

You might find it difficult to schedule equipment repair at quiet times, resulting in plant shutdowns and production disruptions.

Staff with experience in fixing Year 2000 problems are in high demand, and the demand can only get stronger as 2000 approaches. Your key project staff may be lured away by other companies.

To minimise the impact of these factors, it's a good idea to give yourself an early deadline. Finishing early may also give you a competitive advantage, as you will be able to respond positively when customers ask you about your Year 2000 readiness.¹⁸

What can we learn from this? Quite a lot. First, take note of the explicit warning that the project may well be bigger than anticipated — this now makes two out of our four major banks who have highlighted the magnitude of the task!

Second, the issue of "cash-flow" or "lines of credit" is important and often gets overlooked. One of the strengths of any company is its ability to stay out of debt. Good companies manage debt well, and this is reflected in its share price. Question. What happens to the share price of ABC Ball Bearings, when it has to borrow one million dollars to upgrade its equipment and employ programmers to make sure that it is year 2000 compliant?

Third, the ANZ admits *that there is a shortage of staff* to complete the task. Here is at least one Australian company who is admitting that it is hard to get qualified staff now, and that it is going to get harder.

This time we ask the question of the ANZ, how far have they progressed? Their answer:

Our year 2000 program is well advanced: by the end of June 1998, we

will have repaired and/or tested around 60% of IT applications worldwide. We are on target to complete all application repair work (using new date standards) by December 1998 ...¹⁹

This situation seems reasonable enough, but in reality it is mostly smoke and mirrors. To see how accurate these figure really are, we need to know when ANZ started its project. Then we need to be able to sift 'assessment time' from 'fix time', and so on. This done, we will be left with an accurate appraisal.²⁰

10. Small Business

ONE OF THE GREATEST concerns in the whole MB saga is that of small business. Whilst small businesses do not have million line main frame computers, they are by no means immune.

This message must be broadcast because small businesses are just far too complacent. Small Business Victoria has this to say:

Recent (December 1997) research has shown that only 32% of Australian companies have completed the first step of the solution to the "Year 2000" problem; completing an audit to assess the impact and necessary budget to overcome the problem's major impacts.²¹

There you have it in a nutshell. Only 32% [of those who responded — ed.] have completed the first step. That means 68% have not assessed their situation and basically no-one has started addressing it.

These figures deserve our attention, especially when it is remembered that Mr Inchley has said that the failure of 10% of small business at once will cause economic recession. On these survey statistics we can well expect a failure rate higher than 10%.

In looking closely at these snippets of information we are able to see that Australia, like the rest of the world, is facing a formidable task.

the old Communist order since this provided better stability than the unbridled economic chaos brought about by mismanagement of the economy. The alternative, getting the government out of the economy is still not a favourite solution, since many confuse recent government manipulations of the market with capitalism, or a true free market situation.

It is the return of capitalism, the right of private ownership and use of property, supported by government policies that uphold integrity in business transactions, especially maintaining the value of money, that will see an elimination of the "Asian Crisis."

Such a society will not eventuate until the notion that the politicians must get their hands out of the economy is the accepted view. Such a view currently cuts across the idea of the nation-state and managed economies with national borders. International trade is breaking down these borders and the ability to manage an economy within national borders is disappearing from the politicians and demagogues who feel they must tell people how to run their lives. Such views will not be abandoned easily. But the choices are to restrict foreign trade completely or open up the doors to a world-wide free trade zone.

Electronic commerce across borders via the Internet is making it even easier for people to indulge in world-wide trade. The momentum does not suit the politicians and their ability to control this is slipping from their grasp.

We should pray that the demise of the controlled economy occurs sooner rather than later.

11. Smoke and Mirrors

IN ASSESSING THE SITUATION we must of necessity cut through much of the 'language' that surrounds this issue, as a special genre has been adopted in order to help camouflage the situation.

A. Date: The first and most obvious is the compliance date. Everyone knows that a full twelve months of testing must take place to ensure that

18. <http://www.anz.com/y2k/4Businessf.htm> (Emphasis added).

19. <http://www.anz.com/y2k/7Group2000f.htm>

20. For example, if ANZ started its project in January 1998 and is 60% complete by June 1998, then it is reasonable to believe they will finish by December 1998. However, if they started in January 1997 and are only 60% of the way to compliance in June 1998, why should we believe they can fix the remaining 40% in quarter of the time?

21. <http://home.vicnet.net.au/~sbusvic/yr2000.htm>

all MB fixes work. Hence, if one works backward from December 1999, we strike the magic date of December 1998. Read the documentation and 99.9% of companies will state that they aim to be compliant by or at this date. Look at the ANZ above. By June 1998 they will have tested or fixed 60% of their systems worldwide. However, in only six more months—magic date time!—they will be compliant!?

Even the ASX, who has been at the forefront of this issue, is guilty at this point. They list eight business critical systems that need to be made compliant. Their expected compliance dates: April 1998 x 1; September 1998 x 4; December 1998 x 2; and April 1999 x 1.²² Just in case you are wondering, these are not isolated examples. In the majority of cases, where an expected compliance date is given, it will be no later than December 1998. Why? To give the appearance that both repair and testing can all be completed before the ultimate deadline of January 1 2000.²³

B. 100%?: Another aspect is that even those companies that assure us they are on track, still have contingencies. The ANZ are “implementing detailed strategies for risk management.”²⁴ The ASX at the end of its policy statement, under the heading, Contingency Plan, says:

During 1998 and 1999, ASX will review its critical business services and determine what contingencies are feasible and appropriate to reduce its exposure to Year 2000-related problems.

In short, there are no guarantees.

Also, if you do some research on this issue (please do), beware of future type tenses. Phrases like, ‘we plan to ...,’ ‘it is intended ...,’ ‘we anticipate ...,’ are all too frequent. It is all ‘jargon,’ used to sound reassuring but at the

same time allow the company room to move.

12. More Evidence That We Are Unprepared

The Age²⁵ recently conducted a survey of “more than 60 companies”, each with a “turnover in excess of \$1 billion”.

Here is an edited version with comments:

With less than two years to go before the millennium fewer than 10 per cent of Australia’s top companies are year 2000 compliant.²⁶ And, worryingly, one in four of the nation’s leading businesses cannot say with any certainty that they will meet the millennium bug compliance deadline ... (M)any corporates do not expect to have all their systems compliant and are focusing on those parts of their networks that are crucial to their core business.²⁷

Nearly 90 per cent of businesses rated Y2K (year 2000 compliance) as an important issue, with 67 per cent rating it as very serious. Another 16 per cent rated it as a low threat, corresponding with the number of those who believed they had the matter under control.²⁸ Only 9 per cent said they were year 2000 compliant - and more than half of these were relying on vendor assurances - while another 21 per cent claimed they were mostly there.²⁹ ... Australian Stock Exchange chairman, Mr Maurice Newman, (warns) that Australia faces a recession in two years’ time because of non-compliance here and overseas.

The Age survey ... showed that 54.5 per cent of companies were still non-compliant and 15.2 per cent said they did not know whether they were or not.³⁰

Asked when they expected to reach compliance, 27 per cent said they were not sure or refused to answer. More than 40 per cent expected to be compliant this year and 18 per cent pointed to 1999.

Nearly 60 per cent indicated they had channeled medium to significant resources into addressing the problem, but 30 per cent declined to answer.³¹

According to the survey, 22 per cent of companies said the year 2000 expenditure had a high-impact on other IT projects. Another 28 per cent reported medium impact from the diversion of resources.³² However, most companies were reluctant to indicate how much of their Y2K budgets they had already spent. Only eight out of the 63 companies responded to this question.

One last piece of information to ponder. Standards Australia has set up a register of compliant organisations. To be on this register companies declare themselves compliant according to the guidelines set. How many companies are on this register? None!³³

Australia is not bug proof. We will go down the same track as other countries. We are still in the denial stage, generally speaking. The real screams will not be heard until the public begins to understand the magnitude of the problem, and how ill-prepared we are as a nation.

13. Apocalyptic Dreaming?

WHEN ANYONE POINTS to a looming disaster, it is easy for them to be passed off as an ‘apocalyptic dreamer.’ The key, therefore, is for the reader to be able to make several necessary judgments based on established criteria. For example, in modern psychology there is an effort to catego-

22. <http://www.asx.com.au/>

23. In Westpac’s response to the ASX we read: “Westpac intends to be Year 2000 compliant by 31 December 1998 with final testing, outstanding issues resolution, and detailed contingency planning scheduled during 1999.” <http://www.westpac.com.au/>; ANZ in its report to the ASX states: “Repair and full systems testing of ANZ’s internal applications are on schedule for completion and implementation by December 1998.” <http://www.anz.com/y2k/6ANZ2Kf.htm>

24. <http://www.anz.com/y2k/7Group2000f.htm>

25. Leon Gettler, *Companies crawl to 2000*. Monday 30 March 1998.

26. Percentages marked all refer to answers given to the same question, i.e., is the company compliant? With less than two years to go, this figure says that we are in for a rough time. If this is the state of billion dollar companies, what of the little companies?

27. One more admission that there will be failures. How will they affect the public? Good time to start selling mops!

28. There is at least a 16% failure rate. If you do not think you have a problem, you will not spend time fixing it.

29. Let us hope that the “half” relying on “vendor assurances”, have honest vendors. $9 + 21 = 30\%$. That still leaves 70% out in the cold.

30. That is a staggering 69.7% that are admitting to non-compliance. In terms of companies surveyed, that means approximately 43 of the 63 are non-compliant.

31. What is not mentioned in the report is how many of the companies have *mission critical* applications that are non-compliant. Smarter companies deal with the issue on an importance basis, and are less concerned about applications not so critical to the business.

32. Read: Robbing Peter to pay Paul. How much will Peter suffer as a result?

33. <http://www.y2kregister.com.au/> As of August 5, 1998, there are three. However, it might need to be asked what benefit a company would obtain by registering. In a potentially litigious area, few companies will make any public statements.

rise peoples' personality as either positive or negative. A well-known model is the old half-a-glass of water trick. If someone looks at the glass and says that it is half empty, then they are obviously a pessimist. If, on the other hand, they proclaim the glass to be half full, then they are optimists.

These little games are nice, but without a context they are all but useless. Take, for instance, a man lost in the desert. Is he a pessimist if he looks at the half-a-glass of water and says, 'It's half empty?' Given the conditions of a desert, it seems rather prudent to assess one's water status in real terms. Self deception could, after all, be fatal.

You see, the words 'optimism' and 'pessimism' operate on the basis of what one hopes or thinks might come to pass, and not on knowledge and educated guesses. What do I mean? As an example, let us take the recent news that there is a huge rock hurtling through space in our direction. Now the person who is supremely negative will be saying, 'This is it. It's the big one. Kasplat, for sure!' Meanwhile, the optimist is saying, 'Going to miss us by miles. Be lucky to even see its trail. Never happen!'

These reactions show up the unrealistic nature of both pessimism and optimism. Statements are made even though there is not enough evidence to make a concrete prediction. Worse still, optimism and pessimism are apt to make statements about events, *despite* evidence to the contrary.

In total contrast to this, is an appraisal of any given situation based on certain indisputable facts, educated guesses, and experiences.

So what does this have to do with the MB? Simply, this. The indisputable fact is, that some of our computers have a problem that may cause non compliant systems to fail on January

1st 2000. The Australian, American, and British governments all recognise this fact. Top computer analysts also realise that we are facing a dilemma. Consequently, to point out that there is a problem is not pessimism, *it is realism*.

Secondly, we need to be aware of the educated guesses. As most agree that the MB does present a problem, the question then becomes relative to the degree of impact, not whether it will or will not happen. On this scale then, we need to appraise the situation and, *based on our best guess*, make the appropriate plans.

Last of all we need to look at life's experience. Currently, there are a number of trouble spots in the world that can provide us with examples of how disasters, of varying types, have caused upheaval.

If our thesis is correct, it will be *reality*, and not pessimism, that governs our response to the looming situation. This is Biblical. The Scriptures are not interested in fantasy, or in "fudging" the facts to make them more acceptable. The Bible is brutally honest and deals with the harsh realities of life in a sinful world.

14. The Covenant

ONE MIGHT WELL ASK what relationship, if any, does the MB have with theology? Answer—a very close one. Western society has become more and more godless, with fewer voices crying out against the decay.³⁴ Such circumstances warrant stern warnings to the effect that God will not be mocked.

The underlying reason for these warnings, as well as for the hope, is that God is a covenant keeping God. We are justified in having hope so long as our society submits humbly before

God and honours His laws. We are also justified in being worried when our culture flagrantly thumbs its nose at God.

Consequently, "we're moving into a time of judgment which will also be the time of redemption. It will be the shattering of the old world order, of the age of humanistic statism."³⁵

Because of a belief that is firmly rooted in God's covenant, we are able to rejoice when God acts in judgment to jealously guard His righteous standards. In these circumstances there is always hope, for God is not a malicious despot. As the above quotation acknowledges, God's time of judgment will also incorporate God's time of redemption. In clearing away cultural opposition — judgment — God will also create a climate ripe for cultural acceptance and reconstitution — redemption.

Colloquially speaking, we may say that Western society has been 'riding on the sheep's back' of its Christian heritage far too long. Now godlessness is being openly proclaimed. Even though our society had turned away from God, our laws once upheld His righteous standard. Whilst this was the case, we could justly expect God's grace. Now the situation has changed. Our laws no longer protect the fatherless, the widow or the innocent. The Church, to a very real and large degree, has been seduced by the world, and merrily supports the *status quo*. This being the case, how should we expect God to respond?

If we are working from a covenantal foundation, there is nothing intrinsically negative or pessimistic about declaring that our culture is ripe for judgment. This is the Biblical picture.

The full text of the address by Federal Reserve Chairman Alan Greenspan mentioned above is available on: <http://www.federalreserve.gov/boarddocs/testi->

34. Look at the participation by two, dare I say, churches, in the homosexual and lesbian Mardi Gras.
35. R.J. Rushdoony, *The New Reformation Church*, FACS Vol. 16, No.10 ©Copyright October, 1997.