Review of Australia's Consumer Policy Framework

UnitingCare Wesley Adelaide thanks the Productivity Commission for the opportunity to respond to the Consumer Policy Framework Draft Report.

UnitingCare Wesley Adelaide is not in a position to respond to a majority of the topics covered in this inquiry but wishes to make some overview comments, particularly relating to areas that we believe are underdeveloped in the Review. We wish to comment on a number of specific aspects of consumer protection, particularly from the perspective of protection for low income and disadvantaged people.

Who is UnitingCare Wesley Adelaide?

UnitingCare Wesley was formerly the Adelaide Central Mission and is a community service organisation with over 100 years experience in providing services to low income and disadvantaged people in South Australia.

UnitingCare Wesley Adelaide has, for many years, provided services to assist people who are struggling financially and has been at the forefront of supporting financial (and other counselling) in South Australia.

Our financial Counselling is available to anyone, although the service focuses mainly upon low income and disadvantaged people. The service conducts an average of 68 interviews each month. The work of Financial Counselling is vast, covering budgeting advice, advocacy and community education. Counsellors support clients through the trauma of bankruptcy, and intervene with creditors to negotiate satisfactory arrangements.

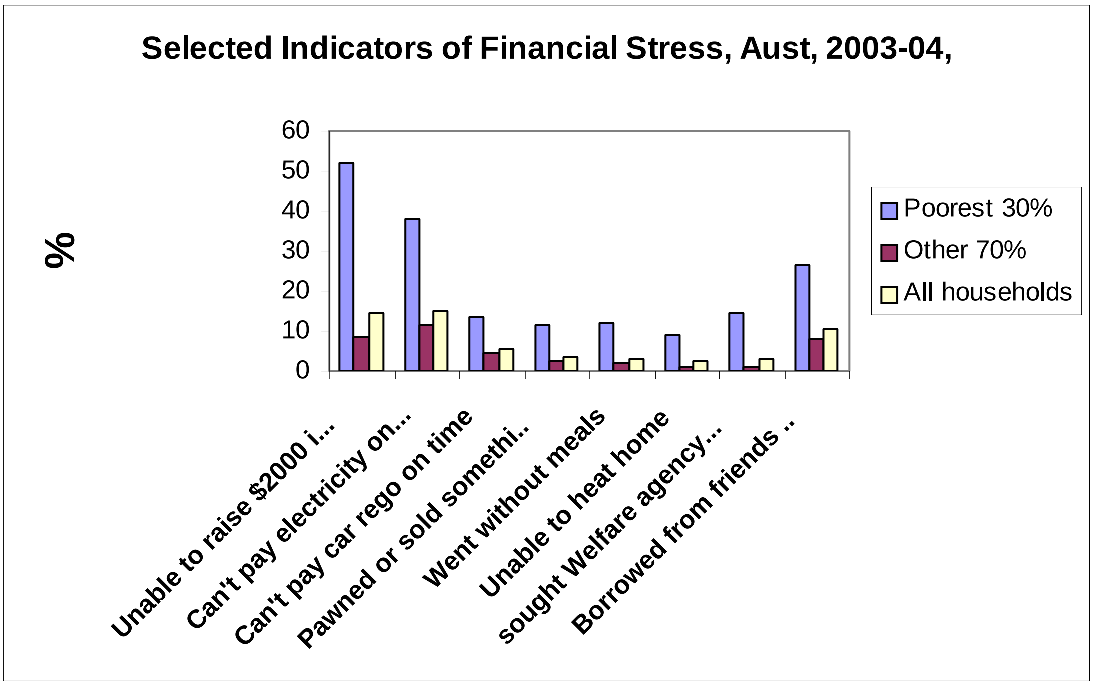
The Central Community Legal Service is run by UnitingCare Wesley and is a community organisation set up to provide legal information, advice, referral and assistance. Assistance is provided by qualified legal practitioners. Advice is offered in areas including consumer issues, debt and tenancy.

The Low Income Support Program also assists agencies and community groups to work with local people to understand the impact and consequences of poverty on people and to identify strategies and resources which can help manage or alleviate the effect of poverty on individuals and families.

Current context for Australian consumers.

While aggregate consumer spending levels are at historically high levels and the Reserve Bank has increased interest rates as part of monetary policy to help dampen consumer spending, significant sections of the Australian population are on a low or very low income and so confront very different spending circumstances than middle and higher income cohorts.

For example, the following graph summarises selected indicators of financial stress for Australia in 2003-4, the most recent year for which data is available.

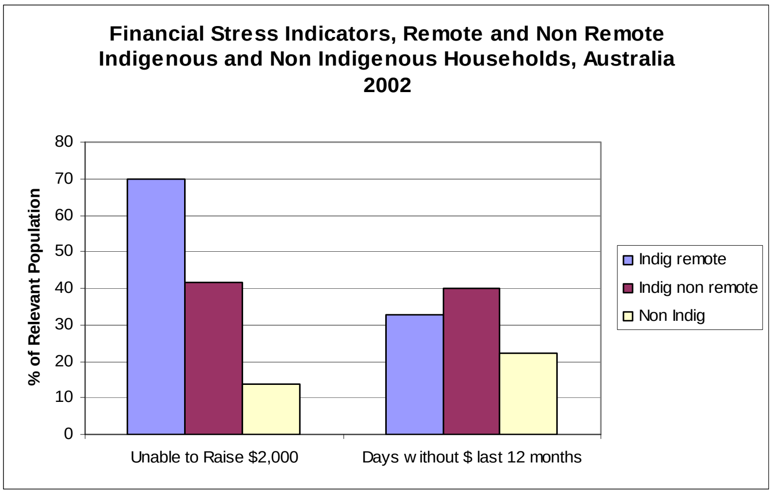


Source ABS

This data shows that a significant part of the population, about 15%, cannot pay electricity bills on time and are unable to raise $2000 in an emergency. Just over 3% of the population go without meals due to financial stress and about 3% are so desperate they seek help from welfare agencies.

It is our observation that many people facing financial stress are vulnerable to unfair practices from the market
particularly from fringe credit providers, aggressive marketers and unscrupulous businesses in general.

Financial stress is even more evident when considering indigenous people.



People in remote indigenous communities experience much higher levels of financial stress than the non-indigenous community with 70% of people in remote indigenous communities unable to raise $2000 in an emergency.

We highlight these indicators of financial stress to underline the importance of consumer protection regulation and frameworks being appropriate to low income and disadvantaged consumers as much as being relevant to the "informed customer who is sovereign in the market" from classical economics.

Gaps in the Consumer Policy Framework Report

These brief comments lead us to identify two areas of concern in the general structure of the Productivity Commission's report:

1. Classification of types of goods
2. Particular needs of indigenous consumers.

Classification of Types of Goods (and Services)

We believe that implicit in the report is the opinion that all goods and services, in any market, have similar characteristics and so uniform (and limited) consumer protections can be applied.

Uniting*Care* Wesley Adelaide, however, argues that an understanding of different classes of goods is crucial to effectively consider an appropriate Consumer Policy Framework.

There is literature about Merit goods, which can be defined as "**Goods that are deemed to have a greater value to society than is reflected in their market price**". We have not had the time to consider this literature against the Consumer Policy Framework report.

We present the following classification of Types of goods in 'the market', by two major criteria:

1. degree of essentiality – based loosely on Maslow's hierarchy of human need
2. Level of risk to the individual and / or society

Classification of "Goods"

1. Essential Services (eg Medical Services, Housing, Utilities)
2. Merit Goods (Education, Fruit and Vegetables, Exercise, Public Goods)
3. Standard Goods (Processed food, consumer durables,

Entertainment)

4. Risky Goods (Pharmaceuticals, Vehicles)
5. Dangerous Goods (Firearms, asbestos, tobacco, poker machines)

Characteristics of "Standard Goods"

As a starting point, we accept that a standard good or service, from this categorisation, has the following minimum set of characteristics:

- Generates utility/benefit for the consumer
- Has Price
- Has value
- Demand increases as price decreases

Such goods are also likely to have the following characteristics:

- Homogeneity (the good or service has consistent characteristics that can be described, but there may be some variability, e.g. an apple is a good but there are subtle variations between goods, a granny smith and royal gala are different, but both are universally recognised as apples)
- Safe (within socially determined or regulated limits)
- There is accurate and accessible information about it
- Scarcity (there are tangible limits to the amount that can be produced / consumed)
- Substitutes exist

Characteristics of an "Essential Service"

The first classification in our suggested categorisation relates to the category of "Essential Services." These are Services that every citizen requires at least some guaranteed quantum of consumption in order to survive and be safe (the first two levels of Maslow's hierarchy of needs). As such they differ from standard goods and services in a number of ways which must be taken into account when considering consumer frameworks. We suggest that core characteristics of any essential service include:

- Universality, all citizens need access to the good or service, at least to a pre-determined (regulated) level.
- Access to the service is generally regarded as a 'human right'
- There is public benefit as well as private utility derived from provision / consumption of the service. (Whilst not meeting the full definition of Public Goods, there is public benefit)
- No clear substitute good or service exists
- Levels of demand vary greatly between consumers (and capacity to pay varies between consumers)
- There are likely to be elements (at least) of natural monopoly associated with provision of the service
- There are health / safety / well-being consequences of non-supply for individuals.

We note that natural monopolies are associated with many essential Services, specifically utilities, and include an acknowledgement of natural monopolies in the context of essential Services.

A natural monopoly exists where the marginal costs of production of a good or service diminish as quantity produced increases (economies of scale). There is an understanding from economists that the efficient supply of a natural monopoly is best provided by a monopoly that is (at least) the subject of strong government regulation and monitoring.

Implications of Essential Service for Consumer Frameworks

In order to consider this question the following are presented as factors that differentiate an essential service from a standard economic good / service:

- Supply guarantee: There needs to be a guarantee of a minimum level of supply to ensure that all customers have access to electricity to at least meet their most basic needs.
- Regulation and Monitoring: Government regulation and monitoring is essential, including setting some price limits and safety guarantees with published performance data.
- Primacy of regulation: Where regulatory outcomes are in conflict with perfect competitive market models, then it is the regulated outcomes that must endure.
- Risk not socialised: Governments / regulators must have regard for market outcomes for supplier entities, but have no responsibility to guarantee profits, or a set, predetermined profit margin.
- CSO's: Communities through governments can require suppliers to meet certain Community Service Obligation (CSO) goals, recognising the capacity of businesses to utilise market mechanisms to meet CSO goals or targets.
- Regulators need to require information to be provided from the market, and be readily available to the public to ensure transparency to enable informed consumer choice.

Characteristics of Merit goods

We suggest that Merit goods are likely to have the following characteristics, (although this is not an exclusive list it is only loosely based on the Merit goods literature)

- There is public benefit as well as private utility derived from provision / consumption of the service.(i.e. there is public benefit as well as consumer benefit, but this is not as 'strong' as for essential services)
- have a market price that is less than their value to society
- Some substitute good or service is likely to exist
- Levels of demand vary greatly between consumers (and capacity to pay varies between consumers)
- There are health / safety / well-being consequences of under-consumption for individuals.
- Standard Good characteristics also apply

We regard public goods as a subset of Merit goods and note the following characteristics that we associate with public goods

- Non rivalrous (does not exhibit scarcity, at least not to the same extent as an economic good exhibits scarcity)
- Non excludable (once it exists, no one can be excluded)
- Plus core characteristics: generates utility, has value
- Has price, but not necessarily determined by a market.

Characteristics of Risky Goods

We understand risky goods to be those which provide significant benefits to the individual consumer and probably to society but for which there are significant risks associated with supply of the good or service. As such these goods fail a Pareto Optimality test, but society generally regards the benefits to significantly outweigh the negative consequences.

- Meet all standard good characteristics
- generate negative externalities which are not factored into supply / purchase price.
- Substitutes may be higher risk

Characteristics of Dangerous Goods

Dangerous goods, for us, are all goods where the harm or risk of harm to the individual or society is likely to be greater than the benefit derived. We recognise that often the harm from dangerous goods is a long-term outcome while the 'benefits' from consumption are short-term. Asbestos, alcohol and all other drugs of addiction to fit this category. We recognise that some dangerous goods are currently legal, while others remain illegal, e.g. illicit drugs.

We suggest that characteristics with the dangerous goods include:

- Meet all standard good characteristics
- generate negative externalities which are not factored into supply / purchase price.
- Long-term social cost greater than any short-term benefits
- is with risk of transfer of goods resulting in greater harm (eg criminal activity)
- active black-market exists.

Consideration of the different categories of goods and services enables different levels of legislation and regulation to be applied for a comprehensive and appropriate Consumer Framework. We summarise our views about the different forms of consumer protection legislation and regulation needed in the following table.

Category of Good	Level of Regulation	Forms of Regulation
Essential Service	High	Service Specific Regulation with specified minimum consumer service standards and protections
Merit Goods	Moderate	Generic Competition policy and Consumer Codes Supported by targeted social marketing campaigns
Standard Goods	Moderate	Generic Competition policy and Consumer Codes
Risky Goods	High	Service Specific Regulation with specified minimum consumer service standards and protections
Dangerous Goods	Very High	Legislation, including Prohibitions with active enforcement

We suggest that many industries and market economists in advocating "hands off" regulation are only thinking about markets involving "Standard Goods." UnitingCare Wesley, however, urges the Productivity Commission to propose a stratified consumer policy framework that takes into account the factors of: Essentiality, Merit, Risk and Danger.

Proposals for "hands off" regulation are inappropriate in each of these circumstances. We can see no valid argument for reducing regulatory controls on dangerous goods like firearms and narcotics. Similarly we recognise that specific consumer protections are required for all Essential Services. For example, housing energy and water markets need to be regulated to ensure a guaranteed minimum quantum of supply and affordable prices without the threat of eviction or disconnection at short notice.

When considering Essential services and Merit goods, we also draw the Commission's attention to the nature of market economics which inevitably 'drift' towards inequality. The classical economist, engineer Vilfredo Pareto made this observation which has been reconfirmed more recently by physicists, Jean-Philippe Bouchaud and Marc Mezard of the University of Paris. An article from the Australian Financial Review about the "Mathematics of Inequality" is attached to support this important principle.

We recognise that highly competitive markets slow the rate at which market economics generate inequality, however the reality is that all markets trend to inequality. We observe that this trend continues in the current Australian economy – the rich poor divide is widening. This is important when considering Consumer Policy for two reasons.

1. We opine that consumer protection needs to be about fairness (equity) as well as efficiency (We suggest that a Socio - Economic Possibility

Frontier can be considered where society's "indifference curves" between the competing elements of equity and efficiency are maximised. A framework that considers only market efficiency must produce a society outcome at a lower 'indifference' level - which is sub-optimal)

2. Low income consumers have diminishing capacity to make choices in the marketplace, they are therefore unable to exercise consumer power in the market and so lose consumer sovereignty. (We suggest there is a relationship between market engagement or consumer sovereignty and income, certainly below certain income thresholds: so that consumer sovereignty is inversely proportional to income at least to a certain threshold)

Recommendation 1

That the Productivity Commission recognises fairness / equity and efficiency as twin objectives of a consumer policy framework

Recommendation 2

That the Productivity Commission develop a stratified consumer protection framework to take into account factors of Essentiality, Merit, Risk and Danger.

Indigenous Communities

Specific regulation and associated compliance enforcement is crucial for indigenous people and indigenous communities, particularly remote communities.

The following is an extract from a submission made by UnitingCare Wesley Adelaide to the South Australian Parliament Economics and Finance Review of Consumer Credit Issues that was conducted during 2006/07.

Extract begins

"UnitingCare Wesley remains deeply concerned about the exploitation of Aboriginal people through consumer credit and related processes.

By way of context, we observe that many people living in remote Aboriginal communities lack all but the most rudimentary understanding of how credit cards work.

A significant number of Aboriginal people in remote communities are unable to read - let alone understand - the information that financial institutions provide to them as card-holders. Consequently, in remote communities, in particular, Aboriginal card-holders frequently expend a substantial portion of their income on avoidable bank charges and associated fines.

For example, anecdotal accounts of Aboriginal people checking and rechecking their balance on an ATM machine - over the course of a few hours (not days) - are legion. Oftentimes a substantial portion of a yet-to-be-received payment will have already been expended on avoidable charges.

The following summarises some previously documented evidence about unfair treatment of aboriginal people by providers of consumer credit and associated services.

Example 1

In May 2005, the Aboriginal Lands Parliamentary Standing Committee visited Amata on the APY Lands. In reporting on that visit to Parliament, the Committee stated that it had heard:

“that [Aboriginal] community members [in Amata] lose a substantial amount of their income in bank charges and associated fines and that, despite assurances to the contrary, the local ATM/EFTPOS machine allows people to overdraw on their accounts for which they then incur a $35.00 fine.”

(Reference: Annual Report of the Aboriginal Lands Parliamentary Standing Committee 2004/2005, Parliament of South Australia, November 2005, P.P.235, p42).

Example 2

A number of stores in (or near) SA remote Aboriginal communities permanently hold the credit cards of Aboriginal customers. In some cases, the stores also hold the PIN numbers attached to those cards. This is a long-standing practice. In some cases, stores have advanced cash or items to Aboriginal people and the cards are held as surety. Alternatively, it is possible that some Aboriginal people may be asking store managers to hold their card as they do not have anywhere else to secure them. Whatever the reason for a card being held, the current arrangements surrounding this practice are ad hoc and not scrutinised.

In December 2000, an audit of community stores operating on the APY Lands found that six stores held EFTPOS cards, with two also holding PIN numbers. (Reference: Burdon, R. 2001, Anangu Pitjantjatjara Stores on the AP Lands: background information, ATSIC).

Example 3

In June 2004, the report of the Select Committee on Pitjantjatjara Land Rights was tabled in the Legislative Council. It included the following (p82):

“… many individuals and organisations told the Committee about the negative social costs borne by Anangu communities as a consequence of activities conducted at Mintabie. The Committee heard that communities close to Mintabie believed that all they got from the settlement “was grief, drugs, secondhand cars that are overpriced and underperforming, … alcohol and … dodgy operators who hang onto their key [ATM] cards.” …”

Significant concern was expressed to the Committee about the operation of stores at Mintabie and how these had resulted in the financial enslavement of many Anangu. A submission from the Iwantja Community at Indulkana described how store operators at Mintabie “allow Anangu people to enter into a book up arrangement, for large debts, then accept their bank key cards and pin numbers as security.” The Mintabie storekeepers, “then use the keycards to remove the required payments themselves on a fortnightly basis, with little or no account keeping records. When people have no income they return to those same businesses and book up further amounts to feed themselves and their families. They then become permanently indebted to these companies with no way out.”

It was alleged that at one point in 2002, Mintabie store owners held some 200 key cards belonging to people from the APY Lands. The Select Committee did not pursue the veracity of this allegation, but considers it worthy of further investigation.

The Iwantja submission (cited in part above) also stated: “In some cases these same key cards [the ones being held in Mintabie stores] have been used interstate for deductions by the store operators or their families.”

Example 4

The matter of overpriced second-hand cars paid for with high interest finance is also of concern.

For many years, Aboriginal people have been purchasing massively overpriced, poor quality second-hand cars, particularly from a couple of dealers at Mintabie. In recent years they have also been able to secure formal - but suspect - banks loans for purchasing vehicle and other items. In early 2006, in response to media attention and public pressure, the Commonwealth Bank agreed to write-off or review 40 loans. The whole incident underscored the vulnerability of people living in remote Aboriginal communities.

An extract from the Commissioner of Consumer Affairs (SA)’s Annual Report for 2005/06, page 21-22:

“In remote areas the demand and need for mobility are high, and the purchase of a motor vehicle or a boat is seen as a priority. Indigenous consumers are particularly vulnerable in remote areas because of a lack of competition, and there are impediments to enforcing consumer protection laws in connection with the sale of motor vehicles and boats. The sale of overpriced and unroadworthy vehicles to Indigenous communities is common and is regularly linked with problems financing the purchases both through the use of formal credit (such as loans) and informal credit (such as ‘book up’).”

Under arrangements negotiated by OCBA and the Australian Securities and Investments Commission, the Commonwealth Bank announced in January 2006 that it would review loans taken out by 400 Indigenous borrowers across Australia. Around 40 of the loans involve people living in South Australia’s Aboriginal communities. Most of the loans were for $20,000 or less, and were taken out to finance the purchase of second-hand vehicles that were of poor quality and in below-average working order. An Adelaide based finance broker was involved in arranging for the purchase of vehicles from specific car dealers in South Australia and sourced finance from the Commonwealth Bank. It was found that the incomes of many of the people taking out loans were restricted to payments received from Centrelink. Investigations found shortcomings in the Bank's eligibility criteria used to assess the applications from borrowers living in remote locations. The Bank acknowledged shortcomings in its procedures and policies and emphasised they were unintentional. All of the loans have been restructured or written off.

OCBA participated on the Council of Australian Governments Indigenous Trials Consumer Education and Financial Services project group in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands. This ongoing project aims to establish essential banking services, financial counselling, budget advice and appropriate consumer education programs in the APY Lands via a partnership formed with the Australian Government, SA Government, Anangu organisations, the financial services sector and the Tjungkuku Kuranyukutu Palyantkaku Regional Forum.

Uniting*Care* Wesley asks that the Committee recommend that the Government conducts an audit of current practices in remote and also urban Aboriginal communities, as a matter of urgency, and publicly releases the results of that audit."

Extract ends

This extract deals only with aspects of consumer protection and is applied to credit and related financial market issues. However, from experience we believe that the key elements emerging from this extract can be applied to a much broader range of indigenous consumer protection issues.

Recommendation 3

That as part of its review of Australia's consumer policy framework, the Productivity Commission develop specific consumer protection measures for indigenous people and their communities.

Other Matters

We conclude with very brief comments about a couple of other matters raised in the consumer policy framework about which we wish to make comment:

Generic versus industry specific consumer protection

We are strongly of the opinion that low income consumers of essential services, in particular, cannot be effectively protected by generic consumer protection regulation or institutions. The specific detail and application of consumer protection for essential services demands appropriate industry specific regulation, monitoring and enforcement.

Compliance and Enforcement

We observed that enforcement of consumer protection legislation and regulation, particularly as it impacts on low income and disadvantaged households, is particularly weak in some markets.

We are extremely concerned about the enforcement of regulation associated with fringe credit providers and other aspects of financial services markets. We also observe that enforcement of regulations for a range of risky products, including gambling and alcohol, are very weak.

We request that the Commission further consider appropriate levels of resourcing for compliance across the consumer protection areas at both Federal and State and Territory levels.

Consumer Advocacy

It is somewhat ironic that firms and their industry bodies pay handsomely for QC's/SC's and lobbyists to represent them to argue for higher prices and reduced consumer protections and then include the costs of this lobbying in the prices they charge consumers. At the same time there is minimal resourcing available for consumer advocates to argue for lower prices and consumer protection.

We recognise that there are some industry supported ombudsman schemes which are useful for the specific markets they cover and for the people who are able to access them.

However, this organisation, for example, has been unable to convince national or state governments about the need for some funding to go towards the establishment of a Consumer Credit Legal Service Centre, nor does the State have a dedicated consumer legal service with the capacity to identify areas for consumer law reform and to advocate for such change.

Reviews like this one and ongoing consumer protection cannot be effectively undertaken without consumer views being able to be effectively presented. The market place of ideas is very lopsided!

Recommendation 4

That this Review recommend resourcing arrangements to enable appropriate consumer voice to occur at national and state and territory levels.

Please note that this organisation also supports the submission made to this review by the National Consumer Roundtable on Energy, we are a member of this Roundtable and represent SACOSS. We represent SACOSS, largely because this important peak body is not resourced at all to consider consumer protection and essential service issues.

Please direct questions of requests for further comment to:
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Appendix 1

The mathematics of inequality

Sep 20, Australian Financial review Magazine
Mark Buchanan, New Statesman

Why is wealth so unevenly distributed among individuals? This is perhaps the most controversial and inflammatory of all topics in economics. As JK Galbraith noted, the attempt to explain and rationalise inequality "has commanded some of the greatest, or in any case some of the most ingenious, talent in the economics profession".

We all know that a few people are very rich and that most of us have far less. But inequality in the distribution of wealth has a surprisingly universal character. You might expect the distribution to vary widely from country to country, depending not only on politics and culture but also, for example, on whether a nation relies on agriculture or heavy industry. Towards the end of the 19th century, however, an Italian engineer-turned-economist named Vilfredo Pareto discovered a pattern in the distribution of wealth that appears to be every bit as universal as the laws of thermodynamics or chemistry.

Suppose that, in Britain, China, the US or any other country, you count the number of people worth, say, $10,000. Suppose you then count the number worth $20,000, $30,000 and so on, and finally plot the results on a graph. You would find, as Pareto did, many individuals at the poorer end of the scale and progressively fewer at the wealthy end. This is hardly surprising. But Pareto discovered that the numbers dwindle in a very special way: towards the wealthy end, each time you double the amount of wealth, the number of people falls by a constant factor.

Big deal? It is. Mathematically, a "Pareto distribution" implies that a small fraction of the wealthiest people always possess a lion's share of a country's riches. It is quite easy to imagine a country where the bulk of people in the middle of the distribution would own most of the wealth. But that is never so. In the US, something approaching 80 per cent of the wealth is held by 20 per cent of the people, and the numbers are similar in Chile, Bolivia, Japan, South Africa and the nations of western Europe.

It may be 10 per cent owning 90 per cent, 5 per cent owning 85 per cent, or 3 per cent owning 96 per cent, but in all cases, wealth seems to migrate naturally into the hands of the few. Indeed, although good data are sadly lacking, studies in the mid-1970s, based on interviews with Soviet emigrants, suggested that wealth inequality in the Soviet Union was then comparable to that in Britain.

What causes this striking regularity across nations? The question is all the more urgent now that inequality seems to be growing. In the US, according to the economist Paul Krugman: "The standard of living of the poorest 10 per cent of American families is significantly lower today than it was a generation ago. Families in the middle are, at best, slightly better off. Only the wealthiest 20 per cent of Americans have achieved income growth anything like the rates nearly everyone experienced between the 1940s and early 1970s. Meanwhile the income of families high in the distribution has risen dramatically, with something like a doubling of real incomes of the top 1 per cent."

Something similar is taking place on the global stage. Globalisation is frequently touted - especially by those with vested economic interests, such as multinational corporations and investment banks - as a process that will inevitably help the poor of the world. To be sure, greater technological and economic global integration ought to have the potential to do so

What is the origin of these distinct but seemingly related trends: the greater inequality within nations (which applies to Britain, and many other countries, especially in eastern Europe, as well as to the US) and the greater inequality between them? We can blame tax cuts, liberalisation of capital markets, new communication technologies, the policies of the International Monetary Fund and so on. But might there be a general science that could illuminate the basic forces that lead to wealth inequity?

Conventional economic theory has never before managed to explain the origin of Pareto's universal pattern. But two physicists, Jean-Philippe Bouchaud and Marc Mezard of the University of Paris, venturing across the lines between academic disciplines, have recently done so.

Forget for the moment about ingenuity, intelligence, entrepreneurial skills and other factors that might influence an individual's economic destiny. Instead, take a step into the abstract, think of an economy as a network of interacting people, and focus on how wealth flows about in this network.

It will flow - causing individuals' wealth to go up or down - in one of two fundamental ways. The first is through the bread-and-butter transactions of our daily economic lives: your employer pays you for your work; you buy groceries; you build a fence to keep in the dog; you take a holiday. The second is through rises and falls in asset values: houses and shares, for example. The physicists have shown how the interplay of these two basic forces largely determines how wealth is distributed.

Bouchaud and Mezard formulated a set of equations that could follow wealth as it shifts from person to person, and as each person makes random gains or losses from his or her investments. They also included one further feature to reflect how the value of wealth is relative. A poor single parent might face near-ruin over the loss of a $50 note; in contrast, a very rich person wouldn't flinch after losing a few thousand. In other words, the value of a little more or less wealth depends on how much one already has. This implies that when it comes to investing, wealthy people will tend to invest proportionally more than the less wealthy.

The equations that capture these basic economic processes are quite simple. However, there is a catch.

For a network of many people - say, a thousand or more - the number of equations is similarly large. A model of this sort, therefore, lies well beyond anyone's mathematical abilities to construct (and this explains why it has not appeared in conventional economics). But the philosopher Daniel Dennett has for good reason called the digital computer "the most important epistemological advance in scientific method since the invention of accurate timekeeping devices". The work of Bouchaud and Mezard falls into a rapidly growing area known as "computational economics", which uses the computer to discover principles of economics that one might otherwise never identify.

Bouchaud and Mezard explored their model in an exhaustive series of simulations. And in every run, they found the same result - after wealth flows around the network for some time, it falls into a steady pattern in which the basic shape of wealth distribution follows the form discovered by Pareto. Indeed, happens even when every person starts with exactly the same amount of money and exactly the same money-making skills.

Why? Transactions between people should spread wealth around. If one person becomes terrifically wealthy, he or she may start businesses, build houses and consume more products; in each case, wealth will tend to flow out to others in the network. Likewise, if one person becomes terrifically poor, less wealth will flow through links going away from him, as he will tend to purchase fewer products. Overall, the flow of funds along links in the network should wash away wealth disparities.

But it seems that this washing-out effect never manages to gain hold, because the random returns on investment drive a counterbalancing "rich-get-richer" phenomenon. Even if everyone starts out equally, and they remain equally adept at choosing investments, differences in investment luck will cause some people to accumulate more wealth than others. Those who are lucky will tend to invest more, and so have a chance to make greater gains still. Hence, a string of positive returns builds a person's wealth not merely by addition but by multiplication, as each subsequent gain grows ever bigger. This is enough, even in a world of equals where returns on investment are entirely random, to stir up huge disparities of wealth in the population.

This finding suggests that the basic inequality in wealth distribution seen in most societies - and globally as well, among nations - may have little to do with differences in the backgrounds and talents of individuals or countries. Rather, the disparity appears as a law of economic life that emerges naturally as an organisational feature of a network.

Does this mean that it is impossible to mitigate inequities in wealth?

Pareto found (as many other researchers found later) that the basic mathematical form of wealth distribution is always the same. You find that, each time you double the amount of wealth, the number of people having that much falls by a constant factor. This is the pattern that always leads to a small fraction of the wealthy possessing a large fraction of everything.

Nevertheless, the "constant factor" can vary: there is a huge difference between the richest 5 per cent owning 40 per cent of the wealth, and their owning 95 per cent. An additional strength of the Bouchaud-Mezard network model is that it shows how this degree of inequity can be altered.

The physicists found two general rules. First, the greater the volume of wealth flowing through the economy - the greater the "vigour" of trading, if you will - then the greater the equality. Conversely, the more volatile the investment returns, the greater the inequity. This has some curious practical implications, some obvious and some not so obvious.

Take taxes, for instance. The model confirms the assumption that income taxes will tend to erode differences in wealth, as long as those taxes are redistributed across the society in a more or less equal way. After all, taxation represents the artificial addition of extra transactional links into the network, along which wealth can flow from the rich towards the poor. Similarly, a rise in capital gains taxes will tend to ameliorate disparities in wealth, both by discouraging speculation and by decreasing the returns from it.

On the other hand, the model suggests that sales taxes, even those targeted at luxury goods, might well exaggerate differences in wealth by leading to fewer sales (thus reducing the number of transactional links) and through encouraging people to invest more of their money.

The model also offers an excellent test of some arguments that politicians commonly use. For example, the pro-free market policies of Britain and the US in the 1980s and 1990s were defended on the grounds that wealth would "trickle down" to the poor. Everything was done to encourage investment activity, regardless of the risks involved. As we know, the wealth did not trickle down and wealth in both countries is now significantly less equally distributed than it was three decades ago. Under the network model, this is just what one would expect - a dramatic increase in investment activity, unmatched by measures to boost the flow of funds between people (such as higher taxes), ought to kick up an increase in wealth inequality.

What about globalisation? Our model suggests that, as international trade grows, it should create a better balance between richer and poorer nations: Western corporations setting up manufacturing plants in developing nations and exporting their computing and accounting to places such as India and the Philippines should help wealth flow in to these countries. But, as Stiglitz notes, Western countries have pushed poor nations to eliminate trade barriers, while keeping up their own barriers, thus ensuring that they garner a disproportionate share of the benefits. As the Bouchaud-Mezard model illustrates, free trade could be a good thing for everyone, but only if it enables wealth to flow in both directions without bias.

If we go back to the model, it reveals another, rather alarming prospect. Bouchaud and Mezard found that if the volatility of investment returns becomes sufficiently great, the differences in wealth it churns up can completely overwhelm the natural diffusion of wealth generated by transactions. In such a case, an economy - whether within one nation, or across the globe - can undergo a transition wherein its wealth, instead of being held by a small minority, condenses into the pockets of a mere handful of super-rich "robber barons". Some countries, particularly developing nations, may already be in this state. It has been estimated, for example, that the richest 40 people in Mexico own nearly 30 per cent of the wealth.

It could also be that many societies went through this phase in the past.

In Russia, following the collapse of the USSR, wealth has become spectacularly concentrated; inequality there is dramatically higher than in any country in the West. The model would suggest that both the increased volatility of investment and lack of opportunities for wealth redistribution might be at work. In the social vacuum created by the end of the Soviet era, economic activity is less restricted than in the West, as there are few regulations to protect the environment or to provide safety for workers. This not only leads to pollution and human exploitation, but also generates extraordinary profits for a few companies (the politically well-connected, especially; a popular pun in Russia equates privatisation with the "grabbing of state assets"). Economists have also pointed out that Russia has been slow to implement income taxes that would help to redistribute wealth.

The Bouchaud-Mezard model is not the last word in explaining the distribution of wealth, or how best to manage it. But it offers basic lessons. Though wealth inequity may indeed be inevitable, its degree can be adjusted. With laws to protect the environment and workers' rights, free trade and globalisation should be forces for good, offering better economic opportunity for all. But we will do this only if global integration is carried out sensibly, carefully and, most important of all, honestly.

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