

Benchmarks

Understanding the unfamiliar or the unknown is made easier when players have standards against which items can be compared.

A Benchmark is a standard by which objects, concepts, or values can be compared or evaluated. Benchmarks provide the players and the referee with standards by which they can better understand what they encounter.

UNDERSTANDING BENCHMARKS

Benchmarks provide insights into three distinct concepts.

Benchmarks for Value and Cost provide insights and guidelines into the value of money and how it can be earned and used.

Benchmarks for Range help in the understanding of distance and its interaction with the senses, sensors, weapons, and travel times.

Benchmarks for Size provide an understanding and useful measure of relative size.

FINANCIAL INFORMATION

The basic financial information on which economic activities are based includes:

Salaries and Wages. Characters can expect to receive payment for their labor based on specific standards. By knowing the benchmarks, the player can understand if an offer of employment will pay wages which are too low or too high, and they can then react accordingly.

The Cost of Living. The typical costs of housing, meals, and other details give players insights into basic costs which they must meet before they can begin accumulating wealth.

Investment and Speculation Returns. The discussion of investment and speculation provides a basis for players' efforts to accumulate wealth.

Help For The Referee

The Benchmarks support the Referee in deciding on the costs of, and potential rewards from, adventures

FINANCIAL ELEMENTS THAT TRAVELLER IGNORES

Among the elements that are routinely ignored in the course of play are:

Taxes. It is assumed that taxes on goods and income are paid as part of the price or the paycheck. Many mechanisms are possible: Perhaps they are an included Value Added tax, or a routinely imposed sales tax. In any case, taxes are invisible to the user.

Inflation. It is assumed that the rate of inflation is both constant and low, and that it can be ignored for most purposes. Prices are constant and do not change without specific important circumstances.

RATIONAL CONSTRAINTS

History has repeatedly seen the creation of terribly rich people, but with such wealth comes equally terrible responsibilities: primary among them is an all-consuming obsession with the accumulation of wealth. Such extreme wealth is incompatible with the central tenets of **Traveller**. Within **Traveller**, the primary purpose of wealth is to support

continuing adventures and travel; a character obsessed with unconscionably great wealth has no time for adventures and is more properly a non-player character (usually willing to spend large amounts of money, or to temporarily lend assets such as starships) to finance adventures which incidentally assist him in amassing even more wealth..

Investments and Speculation may manipulate large amounts of money, but benchmarks indicate amounts which a single individual can rationally expect to receive personally.

For example, the Starship Investment involves millions of credits, but for the characters involved the primary reason for the investment is access to a starship as a means of travel.

SALARIES AND WAGES

The charts provide standard salary levels and wage rates for characters.

Salaries. The Salaries table shows typical salary structures for various character or career types.

For example, a Citizen having served three terms can expect to earn a salary in the range of Cr750 per month (which, according to The Costs of Living table, is slightly more than a C6=Soc character needs to live).

For example, a Spectacular Entertainer with Fame-10 can expect to earn Cr240,000 per year.

Salaries are appropriate for Scholars, Entertainers, Scouts, Naval, and Military characters.

Wages. The Wages table shows typical hourly wage structures for various skill types. A character may decide to work for wages rather than salary if that is more advantageous.

For example, a character with Mechanical-4 can expect to earn Cr10 per hour (= Cr1750 per month). A good Fame-3 Entertainer (who can earn Cr300 per month) may want to work for wages (based on a good skill level) in addition to playing in clubs on weekends.

THE COSTS OF LIVING

The Costs of Living table shows the typical costs an individual expects to pay in the course of living.

INVESTMENTS

Investments focus primarily on creating income streams. Properly employed capital creates a steady stream of income. Contrast Investment with Speculation later.

Stocks and Bonds

Invested capital in relatively safe ventures produces a compounded annual return on investment of between 1% and 2%.

The benefit of a conservative investment is that its chance of loss is almost nil.

The Starship Investment

Bank financing is available to qualified individuals for the purchase of new commercial starships. After a down payment of 20% of the cash price of the starship is made, the shipyard will begin construction of a specific vessel. Upon completion, the vessel is delivered to the buyer, with the bank paying off the purchase price to the shipyard. Because the bank now holds title to the ship, the price must be paid off in a series of monthly payments to it. Standard terms involve the payment of 1/240th of the cash price each month for 480 months. In effect, interest and bank financing cost a simple 120% of the final cost of the ship, and the total financed price equals 220% of the cash purchase price, paid off over a period of 40 years.

In addition, the bank will insist that the purchaser submit an economic plan detailing the projected activity which will guarantee that monthly payments are made.

How Does This Work? Starships are built at shipyards associated with starports. The building process must be profitable, and it has been structured in the following way:

A new MCr10 starship requires an investment by the building shipyard of about MCr6, of which about half is hardware and half is labor. Starports build locally whatever the local economy supports (finely crafted interior finish; astronics, drives). The buyer down payment of 20% (=MCr2) covers most of the required hardware. The starport sells the remaining note (for Cr42,000 per month for 480 months) to a bank (or a Megacorporation) for an amount equal to its remaining costs and a modest profit (=MCr4 + MCr2). The MCr8 note carries a nominal interest rate of about 5.57%. The bank acquires the note for MCr6 and earns close to 8%.

SPECULATION

Speculation focuses on acquiring goods (manufactured goods, luxury goods, commodities) or rights (land grants, intellectual property rights, patents) and selling them within a short period for a profit.

Shopkeepers

Trade is a subset of Speculation: short term buying and selling, making a modest profit sufficient for the proprietor to make a decent living.

Shopkeepers add their labor and expertise to a modest investment in goods (shoes in a shoe store; rooms in a hotel; food in a restaurant; raw materials in a factory) which they resell to the public or to corporate or government clients. A relatively conservative but profitable shopkeeper produces income after expenses.

Rarely does a shopkeeper get rich; most live comfortably off the modest profits of their profession.

Speculators

A speculator buys goods in the expectation that they can be sold at a profit later (and usually on another world). A speculator does not necessarily operate a cargo-carrying starship; a speculator may ship its cargo as freight and pay standard freight rates in order to transport the goods to a profitable market.

Merchant Speculators. A merchant ship crew evaluates trade goods it encounters during its travels, buys those it

thinks have merit, and transports them to other worlds in an expectation of selling them at a considerable higher price.

The Land Grant Speculation

Land has no value unless it can be exploited: a process that involves increasing its population and infrastructure (roads, bridges, transportation, factories, an educational system, and government). A long-term land investor can increase his return (his stream of income) from land by developing it.

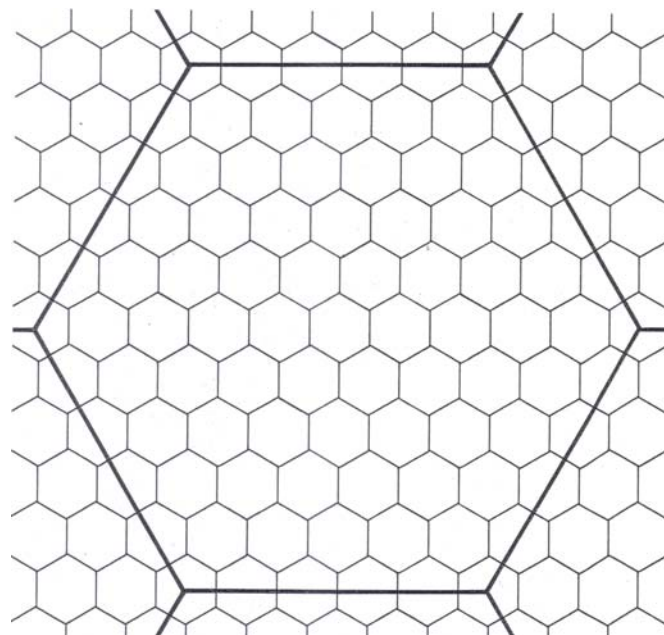
A **Land Grant** differs from actual ownership of land; it confers specific rights and privileges on its holder. These rights include

An **income** based on a nominal portion of the taxes and income that the land produces, escalating as the land is improved.

A **title** (Lord) reflecting possession of the land, and accompanying responsibilities as the final authority to which locals may appeal for the righting of injustice (this authority may be locally delegated).

Outright **land ownership** of one terrain hex (approximately 60 km square).

The Territory. A **land grant** is a gift of [real estate](#)- land or privileges - made by the government or other authority as a [reward](#) for services to an individual, especially as a reward for service or accomplishment, or as an incentive to develop the land.



A typical Planetary hex is 1000 km in diameter, and consists of 76 smaller terrain or Local hexes. The Planetary hex is 10 Local hexes wide (measured vertex to vertex; each 60 km).

THE SHIP'S ACCOUNT

Each adventuring ship has a continuing need for money to pay expenses such as crew salary, maintenance, life support, and other supplies. The accounting for this cash flow is handled through the Ship's Account.

The ship owner is responsible for maintaining the Ship's Account. In its simplest form, it is a running total all income the ship receives minus all costs the ship incurs.

VALUE, COST, AND PRICE

For any object or thing with a value,

Cost is the amount of money required to produce it

Cost is the wholesale price of the object. Cost Modifiers can change this amount based on Flux, or on specific features.

The Cost to a manufacturer can be reduced based on volume production. A factory spends much less than the wholesale cost by producing in volume.

For example, Dran Corp sells vehicle parts. It buys them from various factories at wholesale. A major part (a Gravitic Translimiter) has a benchmark Value of 3 = Cr10,000, which is what Dran pays for it.

Dran sells Gravitic Translimiters based on supply and demand. This year the supply is (Flux = Quite Common = $x 0.8 \times 10,000$) = Cr8,000. Demand is (Flux = Good = $x 1.2 \times 10,000$) = Cr12,000 each. They make a profit of about Cr4,000 for each one they sell.

Meanwhile, Acme Gravitic Translimiters Corporation manufactures the devices. They produce them in volume ($= \text{Value} / 10$) = Cr1,000 each. They want to sell them for Cr10,000 each, but there is currently an oversupply, so they only sell for Cr8,000 to distributors like Dran Corp.

Cost Modifiers do not usually affect player characters unless they are buying in volume or creating a factory.

Price is the amount of money required to buy it

An ordinary person who needs an object usually goes to a store to buy it. Price Modifiers can change this amount based on Flux, or on specific circumstances.

For example, Eneri Dinsha needs a Gravitic Translimiter for a repair he is making. He goes to the local Dran Corp outlet and sees one on the shelf.

The referee determines (by Flux, or by a decision) that Demand is Good (taken from the example above) so the price is ($\text{Value} \times 1.2 =$) Cr12,000.

Price Modifiers can be applied to most items a player character tries to buy. Price Modifiers provide temporary benefits (or obstacles).

Moderation should be used with Price Modifiers; not every object needs to sell for more or less than its Value.

OBJECT SIZE

Benchmark object sizes are expressed in single digits. Special digits R and T correspond to object sizes smaller than 1.

Benchmark sizes show the relative (and approximate) dimensions of objects. Benchmark sizes allow comparisons of different objects, and provide an understanding of overall size.

Benchmark Sizes. The Benchmark Sizes are used with the senses and in combat, and they give players information about carrying or moving objects.

Decimal Sizes

Decimal sizes are typical technological device outputs. For example, a human sees an object in the distance and identifies it as Size 5 (person-sized; about 1.5 meters). A technological device (a range finder; a visual sensor; a sonic detector) provides a more detailed reading as Size 5.3 (person-sized; about 1.8 meters).

Robots. Most robots give their estimates of size in decimal.

How Big Is It Really?

Many objects vary somewhat from the standard size values. The HBIR? Table allows determination of a more specific size of an object. The result can be translated into decimal size or true units.