

ECONOMICS

Section 8

Characters may want to try making a personal fortune in the Frontier. This is not impossible, but it is not a sure thing either. Any business venture has a possibility of failing in the best of times. Space pirates, claim jumpers and other shady types are further threats to the honest businessman in the Frontier. Add to these obstacles the high cost of spaceships and equipment, and an investment can be seen for the risky speculation that it is.

Despite the risks, millionaires are created regularly in the Frontier. Space travel is at a premium, and the person who has a ship in the right place at the right time can often make a killing. This section details some of the ways characters can use ships to earn money, the dangers in their path and how they can get started.

LOANS

Any world larger than an outpost will have banking facilities available. The Pan-Galactic Bank, Streel Bank, Greater Vrusk Mutual Prosperity Institution, and First Bank of Cassidine are the largest financial institutions in the Frontier, but there are many others.

All of these banks make loans, and all charge 4% interest compounded every 40 days. This is about 23% per year. This high interest rate is justified by the volatile economy in the Frontier and offset by the possibility of making a quick fortune.

A character cannot just walk into a bank, demand a loan and walkout with money. A bank will not lend money unless it has a reasonable guarantee that the loan will be repaid. Depending on the size of the loan and the borrower's reputation, the bank may ask for collateral equal to the value of the loan, a personal guarantee, a tracer implant or a combination of these.

APPLYING FOR A LOAN WITH COLLATERAL

A bank will lend money to any character who can leave collateral with the bank.

Any valuable item that the character owns can be used as collateral. Before the collateral will be accepted, the bank's appraiser must inspect the item or items and verify that their combined value is at least equal to the value of the loan. The referee must use some discretion when deciding what a bank will accept as collateral. Valuable jewelry, buildings or a percentage of ownership in a space station orbiting the planet the bank office is on are good collateral. A spaceship that the character intends to take to the far end of the galaxy is unacceptable.

Collateral (or the deed or stock certificate representing it) remains with the bank until the loan is completely repaid. When the loan is paid off, the collateral is returned.

If the character misses a loan payment, the bank will issue a warning. If the character misses two payments in a row, the bank will close the loan and seize the collateral. The character loses both his collateral and all the loan payments he has already made.

Someone who has lost his collateral can try to recover it by resuming payments on the loan. The bank will charge at least a 10% fine on each payment that was missed, if it is willing to reopen the account at all. The referee must decide whether the bank is willing to renegotiate the loan.

EXAMPLE: Disan, a Yazirian, needs a loan for 50,000 Cr. As collateral, she offers the bank a gold and platinum statue recovered from alien ruins in the Dramune system, and the jewel-encrusted Twin Laurels for Manifest Gallantry given to her by the governor of Terledrom. The bank's appraiser places their value at 37,000 Cr and 16,000 Cr respectively. Together, they are worth 53,000 Cr, so the bank will accept them as collateral on a loan of up to 53,000 Cr.

APPLYING FOR A LOAN WITHOUT COLLATERAL

A character who tries to get a bank loan without collateral must meet some minimum qualifications to be eligible for the loan. The character must have a good reputation (or, at the least, no criminal record). The character also must meet a bank loan officer and describe to him in detail how the loan will be invested, and how it will be repaid. After the character has presented his plan, the referee makes a simple die roll to determine whether the bank will extend the loan to the character.

Interviews. A bank loan officer will set up an interview with a character when the character applies for a loan. Loan interviews are good situations for role playing. The referee plays the role of the loan officer, and should thoroughly question the character applying for the loan. If the character gives dubious answers or is rude, the loan officer will be suspicious. (Bank loan offices are routinely monitored by computer, so any attempts to hypnotize the loan officer will be noticed and the loan officer will be notified.)

Securing the Loan. After the interview, the referee must determine whether the loan officer will recommend lending money to the character. The referee rolls d100. If the result is equal to or less than one-half of the character's Personality score, the bank will lend him money. Otherwise, the loan is refused and the character cannot try to borrow money from that bank until he has accomplished some new deed worthy of public notice and praise.

The referee can modify this die roll to match the situation. Modifiers should be based on whether the character's plan has a good chance to succeed, the current economic conditions in the Frontier and the character's attitude and treatment of the loan officer during the interview. These modifiers should not exceed plus or minus 10%.

Reapplication. Note that large population centers will have at least four major banks, and that having a loan turned down at one bank will have no effect on an application at another bank. The actual number of banks in any city, and any particular lending policies of those banks, are left to the Referee's discretion.

CHARACTER'S REPUTATIONS

To receive a loan, a character must have no criminal record and be considered by the bank to be "a good risk." The character's reputation is very important in this regard. A bad reputation or a criminal record can prevent a character from getting a loan anywhere, while a character known for heroism may

be able to get a loan on the strength of his reputation alone.

Fame. The most critical consideration for the referee is whether a character's deeds are widely known. The loan officer will automatically discover any permanent criminal record by checking police files. On the other hand, even a character who has committed many crimes will have no police record if no warrants were ever issued for his arrest and he has never been caught. Likewise, a character who performed heroic deeds in a remote corner of the Frontier cannot expect the loan officer to know about them. However, if the story was broadcast by the news media, the loan officer will have heard it.

Earning a Reputation. A character will earn a good reputation by performing acts that are seen to be in the public service, such as capturing pirates, killing Sathar, saving a child's life, or doing other "good deeds."

LOAN VALUES

A character's reputation determines how large a loan the character can apply for. Several examples are outlined below. The referee should use these as guidelines only; they can be modified to fit circumstances in the game.

A character who has been credited with at least two good deeds can apply for a loan of up to 10,000 Credits. If the character passes the required Personality check, the bank will lend him the money on his personal guarantee alone.

A character who has been credited with at least five good deeds can apply for a loan of up to 100,000 Credits. The character must pass the required Personality check to receive the loan. The bank also will require that the character accept a tracer implant.

A character who, in addition to five or more good deeds, has performed a truly spectacular task, such as saving a city or colony at great risk to himself, can apply for a loan of up to 500,000 Cr. The character must pass the Personality check, and the bank will require that he accept a tracer implant.

Vouchers. A character who has a long-standing position with a corporation can get a letter of recommendation from his employer when seeking a bank loan. In this case, the character uses his employer's reputation instead of his own when asking for a loan. The referee must use discretion when players try this. Most importantly, an employer will not write a letter of recommendation unless an employee has proven his loyalty over period of several years.



GUARANTEES

Before lending money, banks require some sort of guarantee that they will be repaid. Two types of

guarantees are used commonly in the Frontier: personal guarantees and tracer implants.

Personal Guarantees. Banks will settle for a personal guarantee on a loan of 10,000 Cr or less. This is simply a signed, sworn statement by the loan recipient that he will repay the loan according to the agreed-upon schedule, and understands the penalties for breaking the agreement.

A character who defaults on a personally guaranteed loan will be placed on a wanted list. The bank will offer a reward for his capture.

Tracer Implants. Banks require that any character who receives a loan of more than 10,000 Credits without offering collateral must accept a tracer implant.

A tracer implant is a tiny transmitter that is surgically embedded in the character's skeletal system. The tracer emits a radio signal that identifies the character and the bank which loaned him money. The tracer's signal is weak, but it can be picked up by tracer scanners from a range of several meters. Tracer scanners are common in any populated area of the Frontier. All banks and spaceports, and most stores, restaurants and other businesses, have tracer scanners at their entrances. They are standard equipment for police officers.

As long as a character keeps making payments on his loan, the tracer's signal will register as "OK" on scanners. If the character skips payments and does not respond to warnings, the bank will notify all its branches to issue warrants for that character's tracer. From that point on, if any scanner detects that tracer it will trip an alarm, either in the business manager's office or the police station. Because banks offer large rewards for the capture of loan defaulters, police and independent loan agents will close in on the character immediately.

No reputable hospital or medical clinic will remove an implant unless the operation is authorized by the bank.

Bounties. In order to further discourage people from not repaying their loans, banks offer rewards for the capture of loan defaulters. For small loans, the reward usually is equal to the value of the loan. For loans over 15,000 Credits, the rewards become proportionally smaller. For example, the reward for a character who defaulted on a 75,000 Credit loan

may be only 25 or 30,000 Credits. These rewards are paid only if the defaulter is captured alive.



DURATION AND INTEREST OF LOANS

Characters can arrange to repay their loans on a schedule lasting from 1 to 20 years. Payments usually must be made once every 40 days. Interest is assessed at the rate of 4% every 40 days.

To figure out what the monthly payments are for a loan, use the Interest Table. This table shows the monthly payments that must be made on a 10,000 Cr loan, depending on how many years the loan lasts.

To use the table, find the "Monthly" entry that matches the number of years the loan lasts. Divide the amount of the loan by 10,000 Cr. Multiply this number by the monthly payment from the table. The result is the monthly payment for the loan.

To find out how much money the loan will have cost when it is completely paid off, multiply the number in the "Total" column by the amount of the loan divided by 10,000 Cr.

INTEREST TABLE

Years	Monthly	Total
1	1,232.0	12,329
2	735.8	14,716
3	578.3	17,349
4	505.2	20,208
5	465.5	23,275
6	442.0	26,520
7	427.5	29,925
8	418.1	33,448
9	412.1	37,089
10	408.1	40,810
12	403.7	48,444
14	401.7	56,238
16	400.8	64,128
18	400.3	72,054
20	400.2	80,040

EXAMPLE: Lemuel Fairbanks III needs 200,000 Cr to remodel his starship. He applies for a loan at the First Bank of Cassidine. He has no collateral, but his excellent reputation and well-known adventures defending the Frontier make him eligible for a loan of up to 500,000 Cr. He is extremely courteous during the interview, and his investment plan seems well thought out. The referee rolls d100, and the result is 32. One-half of Fairbanks' Personality is 40, 50 the bank will lend him the money.

Fairbanks agrees to pay off the loan over a period of three years. To find his monthly payments, the player divides the amount of the loan (200,000 Cr) by 10,000. The result is 20. This is multiplied by the monthly payment for a three-year loan. The result is $(20 \times 578.3) = 11,566$ Cr every 40 days. At the end of three years, Fairbanks will have paid $(20 \times 17,349) = 346,980$ Cr to the bank, and the loan will be completely paid off.

As the example shows, paying off a loan is expensive. Players should make every effort to guarantee they can repay a loan before actually taking the loan. Loans that are repaid over many years have lower monthly installments, but short-term loans are less expensive overall.

Multiple Loans

It is possible for characters to receive more than one loan. This can be done by getting loans from more than one bank, or by getting one loan on collateral and another on reputation. In fact, this may be the only way characters can finance very large purchases.

ALTERNATE MEANS OF ACQUIRING STARSHIPS

If players are unable or reluctant to get a bank loan for a starship, the referee should consider the possibilities listed below. These are ideas only, not rules. The referee must make his own rules based on common sense in these situations.

GOVERNMENT SUBSIDIES

Some planetary governments will subsidize the purchase of a starship if the characters being subsidized have demonstrated that they can be trusted, and have agreed to use the ship in a way that benefits the subsidizing agency. Basically, the government loans money to the characters (at a low rate of interest) so they can purchase a starship that fits the government's specifications. The characters then must use the ship in government service until the loan is paid off. Examples of areas a government might subsidize are long passenger or freight lines to remote worlds, transport of dangerous materials or desperately needed high-overhead cargos, privateer mg, or a government courier service.

CRIME ORGANIZATIONS

Characters who are unable to secure bank loans, either because of their unsavory reputations or because they lack collateral, may be able to get a loan from a large criminal organization. In return, the criminals may demand very high interest (60 to 100 percent per year is not unusual) and will hold the title to the ship until the loan is paid off. They may also demand that the characters use the ship to do "favors" for the organization, such as smuggling illegal cargos, helping fugitives escape the police, or using the characters' business as a legitimate front for criminal activity.

In some rare instances, criminals may allow characters to put themselves up as collateral for a loan. If the characters default on the loan, the criminals will track them down and either sell them as slaves or kill them and sell their body parts on the black market, using their brains to build cybernetic robots.

In all cases, characters looking for criminal backing must make their own contacts and arrangements. The referee must remember that only the largest criminal organizations have the resources to make these types of deals, and criminals do not become powerful in the Frontier without being ruthless and aggressive.

KNIGHT HAWKS CORPORATE LEASE

A corporate lease is similar to a charter (see Business Ventures), except the company owns the starship. The characters agree to take a smaller percentage of the profits in return for use of the ship. The characters usually have the option to buy the ship, applying their lease payments to the purchase.

JOINT VENTURES

Characters can raise cash to purchase a starship by selling stock in their business. Persons who buy the stock are buying a percentage of the profit earned by that ship, and gambling that their share of the profit will be more than the cost of their shares. Characters can sell whatever percentage of their profits that they wish, but should be sure to keep enough for themselves to assure they can stay in business. At the end of each fiscal period (200 or 400 days are common), the business must deliver dividends to its shareholders. Shareholders who feel they have been defrauded or ripped off will almost certainly complain to the authorities.

USED SHIPS

Corporations (and occasionally governments) sometimes sell old ships. These ships typically are sold for 40 to 80 percent of their new value. The disadvantage to buying a used ship is that characters must take it as it is, and must pay a starship construction center to make any modifications they want. Used ships may be damaged when they are sold (nonfunctioning drives, defective computer, etc.) and are more prone to break downs and malfunctions than new ships. The referee should feel free to let the life support or some other system break down right after characters take possession of the ship, just to let them know what they can expect in the future.

PAYMENT

A corporation or research group may be willing to sign over a ship's title to characters who use the ship on an extremely dangerous and important mission. Such ships usually are very old, however, and subject to the same disadvantages as used ships. Players must negotiate such arrangements themselves.

PATRON'S SHIPS

Characters may be able to find a ship owner who has no crew. If the patron is willing, the characters can agree to serve as the ship's crew, using it in the patron's service. Characters may even agree to work free, letting the ship owner keep their wages as a down payment against eventual purchase of the ship.

SALVAGE

According to interstellar law, any ship that is found abandoned and adrift in open space is the property of whoever salvages it. This can lead to interesting adventures, especially if the previous owner decides to reclaim the ship or a lost cargo hidden in a secret hold.

HIJACKING

While it is extremely risky, it is not unknown for pirates to hijack a commercial or military starship and divert it to their own use in a remote corner of the Frontier. Any characters trying this should meet a lot of resistance, both from the ship's crew during the hijacking and from port authorities and the Star Law Rangers after the hijacking.



DEUS EX MACHINA

As a last resort, the referee can intervene in the players' behalf with some miraculous event ("Your rich great-aunt just died and left her mining ship to you. After all, it is a family heirloom.").

BUSINESS VENTURES

Characters who have gone to the expense of designing and building a spaceship probably will want to use that ship to earn enough Credits to pay off their investment. This section explains three different businesses that characters can get into: passenger transport, freight transport and mining.

Each of these businesses requires a spaceship specially equipped for that job. Besides the costs of starting and operating the business, characters must consider the routine costs of spaceship maintenance.

OBTAINING A COMPANY CHARTER

Although many small businesses manage to survive in the Frontier, most trade is controlled by large, powerful corporations. The most significant of these are listed in the Referee's Background and Campaign Material section. The surest way for a small ship owner to guarantee a steady supply of customers is to get a charter from one of these companies.

A charter is a license from a company to do business in that company's name. The procedure for obtaining a charter is similar for all companies and most types of businesses.

Applications. The first step in obtaining a charter is to make an initial application. The character must go to the company's office, fill out an application form, and interview a low-level executive. After the interview, the referee should secretly roll d100; if the result is less than or equal to the character's Personality score, the interview was successful and the character will be contacted 1d10 days later for a final interview.

The final interview will be conducted by two or three high-level executives of the company. The owner of the ship and all crew members will be interviewed, one at a time. The spaceship will be inspected by a high-level company engineer.

After all interviews and inspections are completed (which may take several days), the player rolls d100. The referee can as sign a positive or negative

modifier up to plus or minus 10, based on the interviews and the condition of the ship. If the roll is equal to or less than one-half of the character's Leadership score, the charter is granted.

Operating Under a Charter. Characters who are granted a company charter also receive, free of charge:

- *uniforms for all ship's crew members*
- *a corporate insignia painted on the ship's hull*
- *use of company docking facilities at space stations*
- *company credit to draw from in times of financial stress.*

In return, the company expects the ship to perform the tasks that are assigned in the time allotted. Refusing to perform a task, repeated delays or thievery will be grounds for revoking the charter.

A ship operating under a company charter will have layovers of six to 10 days (1d5+5) at each station on its route. The cargos and destinations are selected by the company, but profits and ship maintenance and repairs are the responsibility of the characters. For details on profits and expenses, see the sections dealing with specific businesses.

PASSENGER LINES

Carrying passengers from planet to planet or star to star in the frontier is a major business. A character who owns a spaceliner can try to sell passage to individuals on a regular route or charter the ship for special trips.

OFFICES

The first step in starting a passenger transport business is opening an office at each city or spaceport where the liner will take on passengers. Each office costs 500 Cr every 40 days (5,000 Cr per year). This includes a secretary/receptionist robot, videophone, small room, and use of a simple appointments and reservations computer. An office is needed at each embarkation point on the liner's route. For example, on a two-way route the business must have an office at each end.

Spaceliners operating under a company charter do not need offices, as the parent company will take care of bookings, routes and schedules.

BOOKINGS

The number of passenger tickets that can be sold for a voyage depends on the number of cabins available. How these tickets are divided among First, Journey and Storage classes also is a question of ship design.

KNIGHT HAWKS

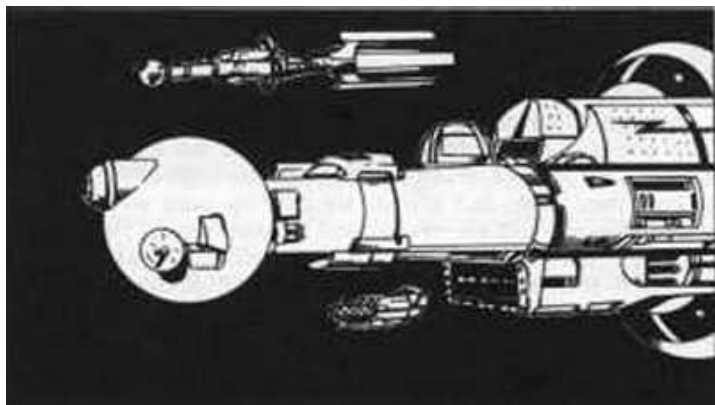
The Spaceliner Bookings Table lists the percentage of berths of each type that will be filled on any voyage. The percentage sold depends on the populations of the departure and destination points. As explained in the STAR FRONTIERS Expanded Game rule book (p.49), planet populations are rated H, M, L or O (heavy, moderate, light or outpost).

To use the table, locate the type of population at the starting point of the trip (Start Pop.) and follow that line over to the population of the destination (Destination Pop.) The table entry at that point indicates a base number and a dice roll that is added to the base number. The appropriate number of dice are rolled and the result is added to the base number. This sum is the percentage of all berths on the spaceliner that have been booked for that particular voyage. The tickets sold should be divided as evenly as possible between all three passenger classes. Any tickets remaining after this division will be for the best available class.

SPACELINER BOOKINGS CHART

Start Pop.	----- Destination Population -----			
	Heavy	Moderate	Light	Outpost
Heavy	80+2d10	70+3d10	60+4d10	10+4d10
Moderate	60+4d10	60+4d10	40+3d10	10+3d10
Light	40+6d10	30+6d10	20+4d10	10+1d10
Outpost	20+8d10	20+4d10	20+2d10	0+1d10

EXAMPLE: Lemuel Fairbanks III has set up a passenger service from Kdikit (Madderly's Star) to Gollywog (White Light) and back again, using his newly remodeled starship, Honorable. When Fairbanks travels from Kdikit to Gollywog, he is traveling from a Medium to a Heavy population, so he can sell 60 + 4d10 percent of the berths on his ship. The player rolls 4d10 and the result is 25, so Fairbanks has sold (60 + 25) = 85% of the ship's passenger berths.



The Honorable has nine Storage Class berths, five Journey Class berths and six First Class berths, for a total of 20 berths. Eighty-five percent of 20 is (.85 x 20) = 17 passengers. Dividing these as evenly as possible gives six Storage Class passengers, five

Journey Class passengers (as many as the ship can carry) and six First Class passengers.

Independent Lines. Spaceliners operating with a company charter always receive the number of bookings indicated by the Bookings Table. The number of tickets sold by privately operated liners depends on the layover time the ship spends at the station, as follows:

- *If 20 or more days are spent in layover, the ship will sell the number of tickets indicated on the chart.*
- *If fewer than 20 days are spent in layover, the number of tickets sold will be reduced by half. In this case, the number of tickets sold is rolled normally and divided by two. Fractions are rounded up.*

PROFITS

The profitability of a spaceliner business is determined by subtracting business expenses from the money earned through ticket sales. While it is possible to make money in this area, characters should realize that it will take quite a few paying passengers to begin paying for the spaceship!

RISKS

Operating a spaceliner is a fairly safe business, since pirates generally leave the liners alone. If a very important person (planetary or military leader, business tycoon, etc.) is aboard, however, the referee may wish to include an encounter with criminals, pirates, assassins or other undesirables during a voyage through space. Otherwise, the referee can roll d100 and check the Spaceliner Hazards Table each trip to find out whether any unfortunate incidents occur. The referee can modify the table if the ship is carrying VIPs or following a dangerous route.

SPACELINER HAZARDS CHART

Roll	Hazard
01-02	Hijacking attempt by passengers
03	Pirates attack
04-05	Drive problems; repairs will take (2d10-engineer's skill level) days.
06	Renegade Sathar Frigate
07-00	Safe and pleasant voyage.

FREIGHT HAULING BUSINESSES

Just as people need to be transported from one place to another in the Frontier, many different goods also must be hauled from place to place. This is the job of the freight ship, and another area

where characters can earn some credits (if all goes well ...).

If a ship is operating under a company charter, all of its cargos will be arranged by the parent company. There is a six to 10 day layover between trips, as mentioned above. Independent haulers must "drum up" their own customers, however.

LOCATING CARGO

Freight haulers can set up offices, the same as passenger liners. When a hauler tries to locate a cargo at a planet or station where he has an office, a load will be offered 2d10 days after the ship arrives. Once a load is contracted, another 1d10 days must pass before the cargo can be loaded onto the ship.

A freight hauler may also find cargos at stations where he has no office. This is done by "beating the docks" (spending time visiting bars, cafes and business offices on a station). If the referee decides the economic conditions are so strong that goods are stacked up awaiting shipment, the hauler will find a cargo in 4d10 days. Another 1d10 days will pass before dock space is available for loading the cargo.

HAULING UNDER A CHARTER

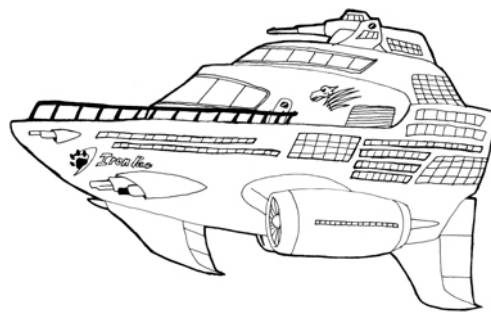
The economics of freight hauling varies between private and company ships. Charter carriers charge the cost of the cargo to the parent corporation. After delivery, the cargo is sold for the amount listed on the Cargo Charts and profit (selling price minus purchasing price) is calculated. The parent corporation's account at the station where the cargo was sold is credited for 20% of the profit immediately, and the rest goes to the owner (or captain, if the owner is not present) of the ship. The owner must pay his crew and maintain his ship with his share of the profits.

INDEPENDENT HAULERS

A private ship must provide some kind of guarantee on cargo before it will be brought aboard. The best guarantee is a large bankroll, that allows the private shipowner to purchase the cargo outright at the point of departure. The shipper then is free to take the cargo wherever he can sell it for a profit.

If the shipowner does not have enough cash to buy the cargo outright, the cargo's owner may demand that cargo guards accompany the merchandise. One guard will be sent for every two units of cargo, but if the cargo is smaller than four units, two guards will be sent anyway. The ship owner must pay their wages. The guards will help the ship's crew repel pirates and fight other dangers, but their primary

job is to make sure that the ship and cargo do not "disappear." Cargo guards always will be 5th or 6th level weapon specialists, with demolitions, martial arts and computer skills as well.



If a freighter is running a regular route, there is a chance its owner will be trusted with a cargo. This chance equals 10% x the number of years the ship has run the same route. The ship owner can try this roll once each time a cargo is offered.

When a private ship owner secures a cargo and sells it at the end of a run, all the profit goes directly to the owner, who can use it however he wants. Crew salaries, supplies, fuel and maintenance also must be paid for, of course.

COMMODITIES

The Cargo Chart lists the types of cargo that can be picked up both at industrial and resource centers. If the referee has not decided beforehand what cargos are available, he can choose one randomly by rolling d100.

Cargo Units. One unit of cargo is the amount of cargo that can be carried in one hull size point. For example, a freighter of hull size 8 can carry 8 units of cargo.

CARGO ACQUIRED AT INDUSTRIAL CENTERS

Roll	Type of Cargo	At Source	At Destination
01-07	Air Cars	20,000Cr	45,000Cr
08-16	Chemicals*	20,000Cr	40,000Cr
17-23	Computers*	60,000Cr	120,000Cr
24-27	Drones	35,000Cr	90,000Cr
28-30	Explorers	40,000Cr	100,000Cr
31-38	Farming Equipment	20,000Cr	35,000Cr
39-46	Generators	30,000Cr	80,000Cr
47-51	Ground Cars	20,000Cr	40,000Cr
52-54	Hand Weapons*	80,000Cr	120,000Cr
55-59	Hovercraft	30,000Cr	50,000Cr
60-64	Jetcopters	30,000Cr	75,000Cr
65-70	Lab Equipment	30,000Cr	75,000Cr
71-75	Medical Equipment	50,000Cr	75,000Cr
76-78	Parabatteries	25,000Cr	70,000Cr
79-87	Plastics	15,000Cr	25,000Cr
88-92	Robots*	40,000Cr	100,000Cr
93-96	Ship Drives*	50,000Cr	80,000Cr
97-00	Tools	25,000Cr	40,000Cr

CARGO ACQUIRED AT RESOURCE CENTERS

Roll	Type of Cargo	At Source	At Destination
01-07	Aluminum	50,000Cr	70,000Cr
08-11	Copper	15,000Cr	25,000Cr
12-13	Diamonds*	400,000Cr	600,000Cr
14-18	Gold*	200,000Cr	300,000Cr
19-28	Iron	20,000Cr	25,000Cr
29-33	Magnesium*	70,000Cr	100,000Cr
34-36	Mercury	40,000Cr	75,000Cr
37-39	Molybdenum	60,000Cr	75,000Cr
40-42	Nickel	40,000Cr	55,000Cr
43-44	Platinum*	80,000Cr	120,000Cr
45-46	Plutonium*	100,000Cr	150,000Cr
47-54	Quartz Crystals	40,000Cr	60,000Cr
55-56	Rubies*	250,000Cr	400,000Cr
57-66	Salt	20,000Cr	30,000Cr
67-70	Silver*	80,000Cr	120,000Cr
71-74	Titanium*	75,000Cr	100,000Cr
75-77	Tungsten	50,000Cr	75,000Cr
78-80	Uranium*	100,000Cr	150,000Cr
81-82	Vanadium	80,000Cr	100,000Cr
83-96	Water / Ice	30,000Cr	40,000Cr
97-00	Zircon	30,000Cr	45,000Cr

* This cargo is "high risk" material; see Risks.

Supply and Demand. The prices of cargo, both at the source and the destination, are subject to modification by the referee. Not all types of cargo should be available at all sources, and supply and demand can raise or lower prices depending on how much of a particular commodity is available on a planet.

Risks

Hauling freight is more dangerous than carrying passengers, because pirates can make a lot of profit by selling stolen cargos. Referees can use the Freighter Hazard Table to determine whether a freighter runs into trouble during a trip. The referee should apply a -10 modifier on the roll if a ship is carrying a high risk cargo.

FREIGHTER HAZARD CHART

Roll	Hazard Encountered
01-02	Attacked by pirates in frigate or two assault scouts
03	Crew mutinies unless captain passes Leadership check
04-05	Drive trouble; engineer needs 1d10 days to repair
06-08	Searched and harassed by local militia at destination
09-00	Save and uneventful voyage

The Hazard Table is intended as an aid to the referee. As with all tables in these rules, the referee should ignore or modify the table's results to fit the campaign.

MINING VENTURES

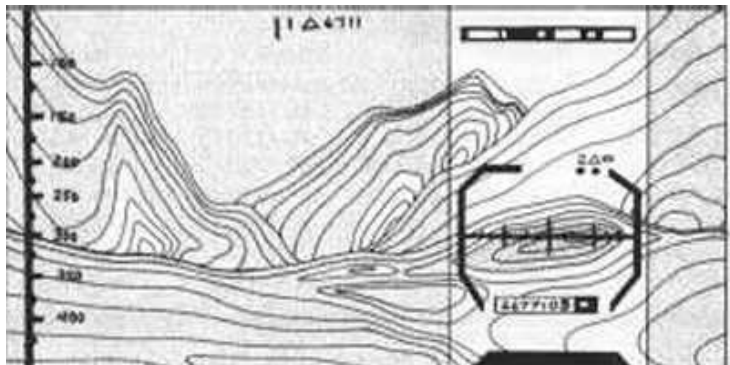
Although many planets consist of nothing but worthless rock and low grade iron ore, others are fairly bursting with valuable metals, gems and other resources. Mining ships are designed to transport a crew to a mineral-rich planet and serve as a base of operations while those resources are exploited.

FINDING MINING SITES

Determining whether a planet has natural resources worth mining involves as much luck as science. A mining concern can find good prospects for operations in two ways: by prospecting and by following rumors.

Prospecting. Prospecting involves examining samples taken from various likely locations on a planet, looking for valuable minerals. These planets might be minor outposts, uninhabitable worlds or even part of a newly discovered system.

The referee should feel free to decide himself that a planet has no valuable, minable resources, or that it is chock full of recoverable ores. If characters are examining planets randomly, the referee can use the procedure outlined below.



PRESENCE OF MINERALS. The base chance that an unmined planet, planetoid or asteroid belt has valuable resources is 25%. The referee can increase this slightly if the planet is very close to its star, or decrease it if the planet is at the edge of the system. The referee should make this roll secretly.

NUMBER OF RESOURCES. If valuable resources are present, the referee should roll 1d10 to see how many resources can be mined.

Roll	Mifiable Resources
1-5	1
6-8	2
9-10	3

FINDING DEPOSITS. If valuable resources are present, players must find them using either a geoscanner or a landing drone. The following

procedure is used when characters are searching for minerals:

1. The referee rolls d100 to determine whether resources are present on the planet or asteroid.
2. If resources are present, the referee rolls 1d10 to determine how many resources there are.
3. The characters choose a spot on the surface where they will search for minerals.
4. The referee rolls 1d10. If the world contains resources, a roll of 1 means that the location where the characters are searching has resource deposits. If the world has no resources, the characters will never find any, regardless of this roll.
5. The characters conduct a check with a geoscanner or landing drone. If the check is successful and resources are present, characters have found the resources and can begin mining.

The characters can repeat such scans as often as they want, and in as many different places on the planet as they wish.

Rumors and "Gold Rushes." The second way to find a promising location for a mine is to follow the crowd - travel with large groups of miners to planets that are reported to be the sites of rich strikes.

Both the Cappellan Free Merchants and the Cassidine Development Corporation (see the Referee's Background and Campaign Material section for more about these companies) sell information on possible mine locations. This information will cost 1,000 to 10,000 Cr, depending on the value of the resources. CFM and CDC provide this service to promote competition with the larger corporations.

Some prospectors also earn their livings by locating mineral deposits and selling their locations to miners. Information bought from prospectors usually costs more, but reputable prospectors will not sell a mine's location more than once.

Characters who do not want to buy information may be able to get what they want free. Characters who visit taverns and restaurants on resource worlds, space stations or other likely spots may, at the referee's discretion, hear rumors that can lead them to mineral strikes.

MINING AND PROCESSING OF RAW MATERIALS

Once a character has found an encouraging location for a mining operation, he must arrange to dig the material up and process it. Mining equipment and specifications for its use are listed in the Optional Spaceship Equipment section.

Once a mining operation starts, the referee can use the Raw Material Chart to determine what materials are present and other information vital to the operation. The meanings of the various entries on the table are explained below.

DICE ROLL. The referee can use this column to randomly determine what materials are present on a world.

ORE/UNIT. This is the number of tons of ore that must be mined to yield one unit of concentrate. A unit of mined material is the same as a unit of cargo.

PROCESS TIME. Process time is the number of days needed to process ore into one unit of concentrate. A mining ship of hull size 10 needs 10 times the number of days listed to completely fill its hold with mined concentrate. This should be doubled for mines using an OPL.

RAW MATERIAL CHART

Roll	Material	Ore/Unit	Process Time
01-10	Aluminum	4,000	4d10
11-18	Copper	1,500	1d10
19	Diamonds	20,000	12d10
20	Emeralds	25,000	14d10
21	Gold	1,000	2d10
22-36	Iron	1,000	1d10
37-43	Magnesium	5,000	4d10
44-48	Mercury	500	2d10
49-53	Molybdenum	4,000	5d10
54-59	Nickel	4,000	3d10
60-65	Platinum	3,000	4d10
66-67	Plutonium	2,000	4d10
68-75	Quartz Crystals	1,500	2d10
76-77	Rubies	25,000	12d10
78-79	Silver	1,000	2d10
80-87	Titanium*	8,000	6d10
88-90	Tungsten	4,000	2d10
91-92	Uranium*	1,500	3d10
93-94	Vanadium	5,000	2d10
95-00	Zircon	2,000	5d10

Playing Out. There is no guarantee that a mine will yield enough raw material to fill the hold of a mining ship. The chance that a mine will "play out" is up to the referee. This can be determined randomly by rolling 2d10. The result is the number of cargo units of concentrate that can be taken from the mine before it is exhausted.

Characters can search for new deposits on a planet if a mine plays out.

Ecological Considerations. Some of the more heavily populated resource-rich worlds in the Frontier have been mined to the point where the planet becomes an industrial wasteland. The lessons

KNIGHT HAWKS

learned from these experiences have led some planetary governments to pass tough environmental protection laws. Specific laws are up to the referee, but they can be used to provide obstacles for an ambitious mining operation.

TRANSPORTING AND SELLING ORES

Once miners have filled their ship with concentrate (or collected as much as they can), the material must be transported to a resource center and sold. A resource center is any Frontier planet with an "R" code in its Population and Trade listing in the STAR FRONTIERS rule book (p.50). A buyer will be located within 1d10 days at the space station orbiting a resource center. The buyer will pay the amount in the "Source" column of the Cargo Chart in the freighter section.

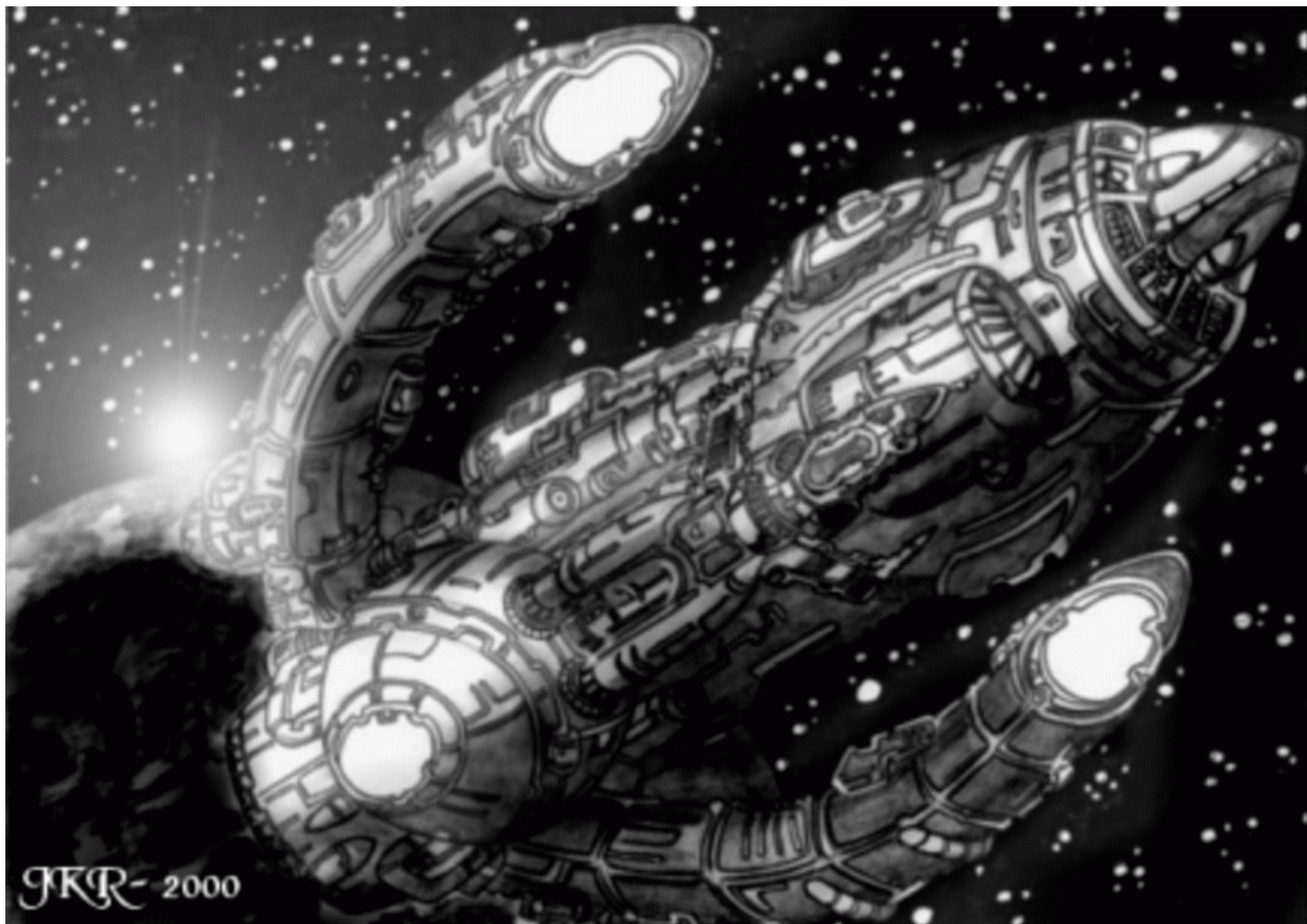
If characters take concentrate to an Industrial world, they have a 10% chance of finding a buyer in 10 days. These buyers also will pay the amount at Source, not Destination.

RISKS

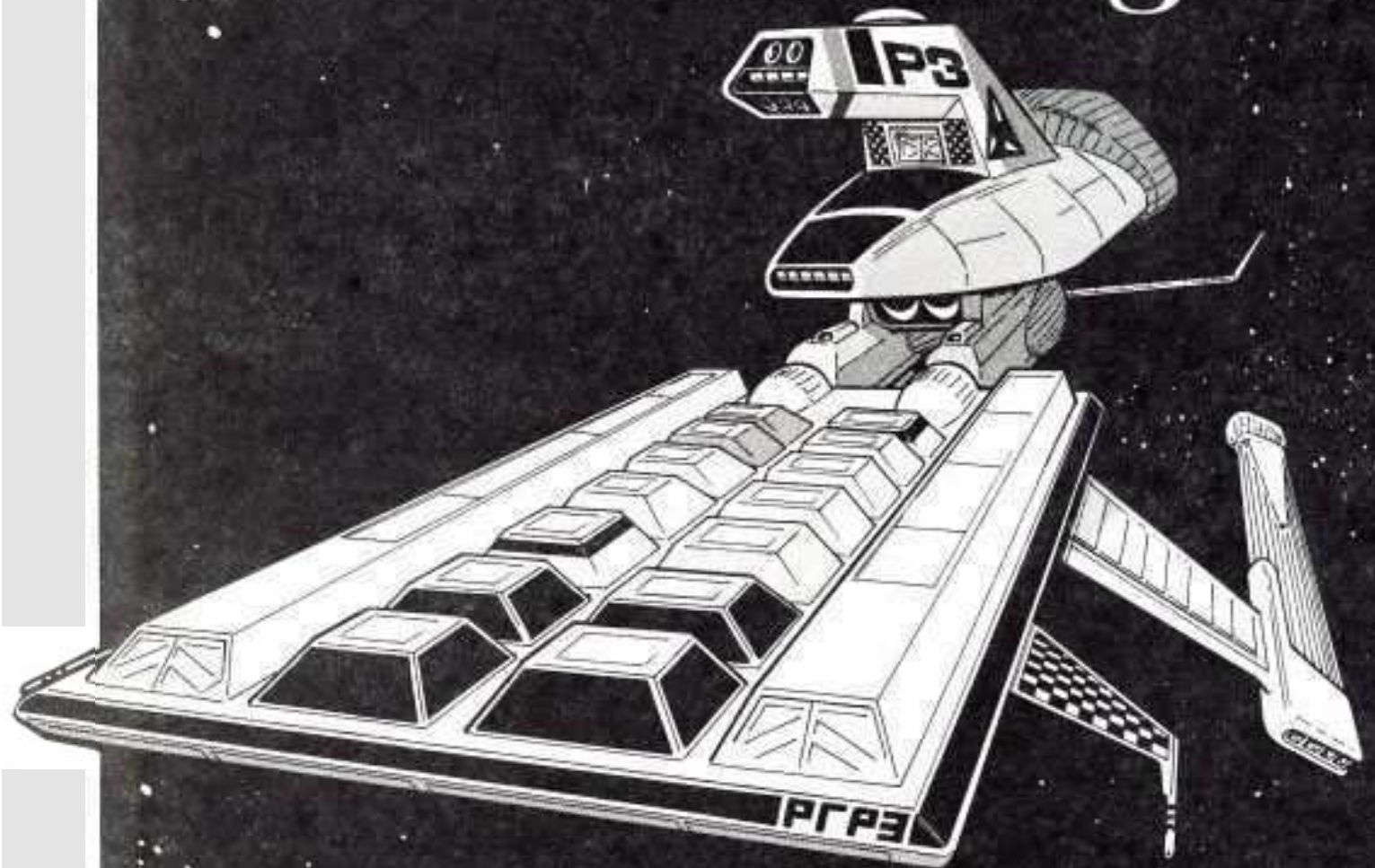
Because of the potential for fat, fast profits, mining operations are plump targets for pirates and unethical corporations. Unless the referee has planned encounters during a mining venture, he should roll d100 and check the Mining Hazards Table once for each week a mining crew spends at the mine site.

MINING HAZARD TABLE

Roll	Hazard
01-04	Pirates - One frigate or two assault scouts are used to attack the operation in an attempt to steal the concentrate.
05-10	Corporate thugs - Either Streel Corp. or the PGC sends two assault scouts with armed landing parties to disrupt the operation
11-19	Processing plant breakdown - technician needs 2d10 days minus skill level to repair
20-30	Wildcatters - independent miners set up an operation nearby; they will fight if their work is interfered with.
31-00	No event this week.



"Tote that barge!"



A short guide to interstellar economics

by **Matt Bandy**

In the futuristic and business-oriented society of the Frontier Sector, trade is essential, and freighters, being the instruments of trade, are very important. Freighters are the Frontier's answer to the middleman of modern society, buying goods in one star system and transporting them to another for resale.

The life of a freighter captain is a gamble: he either becomes very wealthy or very bankrupt. A good captain can predict price swings in a star system's economy and use that knowledge to further his own ends.

The rules regarding the purchase and resale of cargo in the STAR FRONTIERS® Knight Hawks rules are well-conceived, but fail to take into account the laws of supply and demand and all the factors that influence it. This article attempts to

revise the existing system to consider supply and demand, and at the same time to provide a framework upon which an individual referee may construct the intricate interplanetary economics of his campaign.

Supply and demand

Supply and demand is simply a comparison between the available supply of a certain material object with the consumer's need or desire for it. Whenever the supply of a substance exceeds the demand for the same, the market is glutted and prices of the material plummet. The opposite is true when demand exceeds supply. If a shortage of said substance occurs, a bidding war begins and prices rise.

In many ways, freighter captains resemble players of the stock market. They purchase items at a low price and

transport them to a location where prices are high, making a hefty profit in the process. Often, many freighter captains will begin buying low-priced materials simultaneously, creating an increase in demand and subsequent price rise. In this way, freighters aid the economy of the Frontier by saving many small companies which could have become bankrupt had the glut lasted much longer. On the other side of the coin, freighters occasionally converge on a high-price center and begin selling, glutting the market. Most freighter captains are experienced enough either to arrive at the center before the glut occurs or to anticipate the effects of a glut on other planetary economies, predicting the resulting price changes. By these methods, freighters have an equalizing effect on the economy of the Frontier, causing economic fluctuations to be short-lived.

A glut usually results in a 2-40% (2d10) price decrease and a shortage in a 2-40% price rise. Both phenomena last only a short while, returning 1-10 percentage points toward the base price every day. The base price is listed in the STAR FRONTIERS rules. The point of departure price in the Knight Hawks rules is the base price for bulk loads.

The direct results of an excess of supply or demand on local economies are fairly obvious, but what about the economies of those planets that purchase from the victim of a shortage? (Gluts do not effect prices of the afflicted planet.)

If an industry were forced to pay a high price to obtain raw materials, would not the finished product price be raised to cover the companies' initial purchase of raw materials? An agricultural shortage could result in inflated food prices, which in turn could force unions to demand cost of living raises from their employers, who could raise the prices of their products to cover the raises they had given their workers. Inflation along this line is often irreversible. To prevent it from occurring, governments of agricultural planets buy up most of the surplus crops and then sell them when a

food shortage exists. This way, they also prevent agricultural gluts and shortages from developing.

Import and export

When a glut or a shortage occurs, it is essential to know what and to where the victim exports in order to determine the effect these events have on the economies of other planets and solar systems. The web of export-import connections along major shipping lanes is illustrated in the following table.

Import table

Planet	Imports	Origin	Planet	Imports	Origin
Hentz	15% agricultural products	Hakosoar	Zik-kit	20% industrial products	Kdikit
	50% agricultural products	Yast	Kdikit	70% raw materials	Gollywog
	90% raw materials	Hargut	Gran Quivera	60% raw materials	Gollywog
Yast	90% industrial products	Hentz	Morgaine's World	50% agricultural products	Ken'zah Kit
Rupert's Hole	85% raw materials	Outer Reach		100% industrial products	Gran Quivera
Triad	25% agricultural products	Rupert's Hole		50% agricultural products	Ken'zah Kit
	25% agricultural products	Kdikit	Hristan	60% industrial products	Hakosoar
	40% agricultural products	Inner Reach	Hakosoar	40% raw materials	Hargut
	75% raw materials	Outer Reach	Minotaur	75% raw materials	Gollywog
Laco	95% industrial products	Gran Quivera	Lossend	20% agricultural products	Kdikit
Inner Reach	85% raw materials	Outer Reach		10% agricultural products	Kdikit
Outer Reach	95% agricultural products	Inner Reach	Pale	30% raw materials	Gollywog
Groth	90% industrial products	Terledrom		90% agricultural products	New Pale
Terledrom	20% agricultural products	Groth	New Pale	85% industrial products	Pale
	75% raw materials	Zik-kit	Gollywog	40% industrial products	Minotaur
Hargut	30% agricultural products	Hakosoar		20% industrial products	Lossend
	30% industrial products	Gran Quivera		10% industrial products	Triad
	30% industrial products	Hentz		30% agricultural products	Kdikit
	15% agricultural products	PGC Ag Ships		10% agricultural products	Ken'zah Kit
Ken'zah Kit	70% industrial products	Zik-kit			

These percentages assist the referee in determining the result of a shortage or a glut on his campaign's economics. For instance, if accelerated pirate activities exist in the White Light system, a smaller than usual amount of raw materials will be processed and shipped resulting in a shortage. This shortage will in turn cause a price increase of

35% (shown by die roll) on all raw materials exported by Gollywog. The recipients of these materials are revealed to be Lossend, Minotaur, Gran Quivera, and Kdikit by a quick glance at the Imports Table.

Lossend imports 30% of its raw materials from Gollywog. This means that 30% of its total raw materials stock is

increased in price by 35%. $30\% \times 35\%$ equals a 10.5% (rounded off to 11%) net cost increase on all incoming goods. To make up for this cost increase, industries on Lossend increase the price of other products by 11%. This cost increase affects Gollywog in turn because it imports 20% of its industrial products from Lossend.

Minotaur imports 75% of its raw materials from Gollywog. The shortage results in a 26% ($75\% \times 35\% = 26.5\%$, rounded off to 26%) net price increase, which in turn affects Minotaur's industrial prices. This price increase affects Gollywog, which imports 40% of its industrial products from Minotaur.

Gran Quivera imports 60% of its raw materials from Gollywog, so the shortage results in a 21% ($60\% \times 35\% = 21\%$) net cost increase on its raw materials. This cost increase would be passed on in varying degrees to Laco, Morgaine's World, and Hargut.

Kdikit is handled in a similar manner. Due to strict price controls imposed by the UPF, prices on all domestic goods do not rise to match those of imports.

Economic fluctuation types

Random economic fluctuation generation and the random determination of victim planets are accomplished through the use of the following tables.

Economic fluctuation table

d100 event

- 01-40 no event
- 41-55 industrial glut
- 56-70 resource glut
- 71-85 industrial shortage
- 86-00 resource shortage

Roll on the Economic fluctuation table once every 20 days. Once the type of fluctuation is determined, roll on the appropriate planetary table.

The referee may find it useful to decide upon the cause of a specific fluctuation. This makes the game more enjoyable to players traveling in or through the affected solar system. A detailed example follows.

Day 1: A roll of 63 on the Economic Fluctuation Table indicates a resource shortage on the planet of Hargut (selected by a d100 roll on the Resource Planetary Table). A price increase of

Industrial planetary table

d100 planet

- 01-08 Hentz
- 09-16 Rupert's Hole
- 17-25 Triad
- 26-33 Inner Reach
- 34-42 Outer Reach
- 43-50 Terledrom
- 51-58 Zik-kit
- 59-66 Kdikit
- 67-74 Gran Quivera
- 75-82 Hakosoar
- 83-90 Minotaur
- 91-95 Lossend
- 98-00 Pale

Resource planetary table

d100 planet

- 01-20 Outer Reach
- 21-40 Hargut
- 41-60 Zik-kit
- 61-80 Pale
- 81-00 Gollywog

21% (2d20 roll) results on all raw materials on Hargut.

Day 2: The 21% price increase reaches the planets of Hentz and Hakosoar. Hentz imports 90% of its raw materials from Hargut, so 90% of its raw materials are increased in price by 21%. This results in a 19% ($90\% \times 21\% = 18.9\%$, rounded off to 19%) net cost increase on all raw materials on Hentz. The planet's industries are forced to raise their prices by that amount to cover their purchase of raw materials and retain the same profit margin. Hakosoar imports 40% of its raw materials from Hargut, so a net cost increase of 8% ($40\% \times 21\% = 8.4\%$, rounded off to 8%) results on all raw materials bought or sold on the planet. This forces its industries to raise the prices of their finished goods by a similar percentage.

The initial cost increase of 21% on Hargut is reduced to 14% ($21\% - 7\%$, the result of a d10 roll).

Day 3: Yast and Hargut (surprise, surprise!) receive industrial price increases from Hentz. Yast imports 60% of its industrial products from Hentz, so a net price increase of 11% ($60\% \times 19\% = 11.4\%$, rounded off to 11%) falls upon all industrial products on the planet. Hargut, the one that started it all, imports 30% of its industrial goods from Hentz, so a 6% ($30\% \times 19\% = 5.7\%$, rounded off to 6%) net cost increase on this type of product results.

Hristan imports 60% of its industrial goods from Hakosoar, so a net cost increase of 5% ($60\% \times 8\% = 4.8\%$, rounded off to 5%) results on that type of goods on the planet. The inflation on Hentz and Hakosoar is reduced to 13% ($90\% \times 14\% = 12.6\%$) and 6% ($40\% \times 14\% = 5.6\%$), respectively, as the reduction of the price variation reaches them. The raw materials cost on Hargut is reduced by another 9% to only 5%.

Day 4: The inflation on industrial prices on Yast, Hargut, and Hristan is reduced to 8% ($60\% \times 13\% = 7.8\%$), 4% ($30\% \times 13\% = 3.9\%$), and 4% ($60\% \times 6\% = 3.6\%$), respectively, because the first reduction of the price variation finally reaches them. The industrial and raw material inflation on Hentz and Hakosoar is reduced to 5% ($90\% \times 5\% = 4.5\%$) and 2% ($40\% \times 6\% = 2\%$), respectively, as the second reduction of the economic fluctuation arrives. The raw material inflation on Hargut is reduced to zero by a roll of 8.

Day 5: The industrial price increases on Yast, Hargut, and Hristan are reduced to 3% ($60\% \times 5\% = 3\%$), 2% ($30\% \times 5\% = 1.5\%$), and 1% ($60\% \times 2\% = 1.2\%$) as the second reduction of the fluctuation reaches them. The industrial and raw material price increases on Hentz and Hakosoar end.

Day 6: The industrial inflation on Yast, Hargut, and Hristan ends.

Some closing notes

For the sake of simplicity, I have ruled a time lapse of one day for price increases (and reductions on those increases) to move from planet to planet. In actuality, it would take one day for every light year between the planets — a change that referees may make in their campaigns.

A flow chart or procedure table was not included for the simple reason that it would be complicated into incompre-

hensibility. It is much easier to deduce the procedure from the examples. (I tried to create a procedure table, but it was too long and undecipherable!)

For an added touch of realism, referees may want to include an availability modifier in certain systems. This is a price change of +5% on all imported goods.

Each type of cargo may be obtained only at a center of the appropriate type (e.g., raw materials at resource centers).

Since agricultural gluts and shortages are very rare, agricultural cargoes are bought and sold by the prices given in Tony Watkin's article "Rare Wines and Ready Cash," in DRAGON® issue #93.

Readers will notice that this system requires a great deal of work on the referee's part, but it pays off, especially if one of the PCs owns a freighter. It's much more challenging than the system in the Knight Hawks rules, thus proportionately more fun to use.



Rare wines and ready cash

Agricultural trade in the Frontier
by Tony Watson

Both the Alpha Dawn and the Knight Hawks rules for the STAR FRONTIERS® game system touch on the subject of agriculture and trade within the Frontier Sector. Alpha Dawn describes certain worlds within that region as having agricultural economies, while Knight Hawks provides a section in its spacecraft design rules for outfitting agricultural ships. Despite this, the system for conducting interstellar trade gives cargo charts only for resource-producing and manufacturing worlds; agricultural planets and their goods are virtually ignored.

Given the assumption that the produce of agricultural worlds, especially the unique and rare items such as wines, spices, and drugs, will be viable commodities in the STAR FRONTIERS milieu, then a trade table for agricultural goods, similar to those appearing on p. 45 of the Knight Hawks Campaign Book, is needed.

The brief table on the Frontier Sector in the Alpha Dawn Expanded Rules lists eight worlds as agro-planets: Yast, Inner Reach, Rupert's Hole, Groth, Ken'zah Kit, Kidikit, New Pale, and Hakosoar. These planets are the primary sources for agricultural cargos, entitling the prospective trader to roll on the "Cargo Acquired at Agricultural Centers" table. Such cargos can be marketed at industrial and resource centers.

Players will note that these colonies represent each of the four Federation member races. Presumably the colonies offer a wide variety of agro-goods, many of them unique. Agricultural production methods in the Frontier need not follow the Terran pattern. Farming can take place underwater or in subterranean caverns. Animal husbandry can be practiced on flocks of balloon-like creatures on high-gravity worlds with a dense atmosphere.

Similarly, star color might affect the nature of crops and herds raised on planets. What sort of strange plants might flourish under the red-orange sun of Hakosoar's star, Scree Fron? For simplicity's sake, only one table of cargos is provided, but the referee is encouraged to modify the description of individual cargos to reflect the unique nature of a world, for both the sake of variety and the feeling of local color.

Cargo Acquired at Agricultural Centers

Die roll	Type of cargo	Price per unit	
		At Source	At destination
01-08	Grain	5,000 Cr	7,000 Cr
09-16	Vegetables	7,000 Cr	10,000 Cr
17-22	Fruit	10,000 Cr	15,000 Cr
23-24	Exotic fruit	30,000 Cr	60,000 Cr
25-31	Meat	25,000 Cr	35,000 Cr
32-36	Poultry	20,000 Cr	30,000 Cr
37-43	Fish	15,000 Cr	20,000 Cr
44-46	Cheese	15,000 Cr	25,000 Cr
47-52	Sugar	15,000 Cr	20,000 Cr
53-55	Coffee	25,000 Cr	40,000 Cr
56-62	Lumber	8,000 Cr	12,000 Cr
63-64	Decorative plants	20,000 Cr	40,000 Cr
65-70	Textiles	35,000 Cr	60,000 Cr
71-76	Liquor	50,000 Cr	90,000 Cr
77	Rare liquor	75,000 Cr	150,000 Cr
78-83	Wine	45,000 Cr	75,000 Cr
84	Rare wine	100,000 Cr	200,000 Cr
85-88	Spice	60,000 Cr	100,000 Cr
89	Rare spice	80,000 Cr	150,000 Cr
90-92	Herbs	50,000 Cr	75,000 Cr
93	Rare herbs	75,000 Cr	135,000 Cr
94-96	Medicinals	70,000 Cr	125,000 Cr
97	Rare medicinals	100,000 Cr	200,000 Cr
98-00	Furs	60,000 Cr	140,000 Cr

Notes on the chart

The types of cargos on the chart are intended to be generic, stressing general types of goods over specific items. Hence, "grain" might refer to wheat, rice, or corn, but could be construed to include any sort of mass-harvested staple, perhaps even algae harvested from the sea. The referee should use imagination in describing the cargo obtained. For example, a roll of 30 on the chart indicates a cargo of meat — but what sort of meat, from what sort of creature? A load of textiles could represent a sort of plant fiber analogous to cotton, or the "wool" of some strange star beast.

The rare and exotic categories were included to denote special cargos of exceptional quality, value, and rarity; they offer the opportunity to trade in high-value cargos, something that agricultural-produce charts tend to lack. The "rare liquor" and "rare spice" categories might include substances with medicinal, hallucinogenic, or age-prolonging properties. "Medicinals" represent organic materials used purely for health-care purposes or in pharmaceutical production, and might include items such as buds, flowers, pollens, and animal or plant extracts.

Some colonies offer a wide variety of unique agro-goods.

The prices used in the chart were set arbitrarily, using the existing Knight Hawks commodity tables as guidelines and extrapolating from modern-day pricing structures. The profit-to-cost ratios are in line with the resource and industrial cargo tables, but tend toward the lower end of the scale for most of the goods. Hence, most agricultural goods are pretty cheap, especially compared with other cargos. No one is going to get rich dealing exclusively in grain or vegetables. The upper end of the table is the exception: herbs, spices, liquors, and furs are luxuries and are priced as such.

Farming

The Knight Hawks rules provide guidelines for hydroponic farming aboard Ag ships. Given the information provided on the agricultural cargo table, a few

modifications are in order. The kinds of crops that can be farmed aboard Ag ships should be limited to things such as grain, vegetables, fruit, and coffee. Meat and lumber can be raised, but the time required to "harvest" the produce would have to be lengthened considerably.

Liquors, wines, herbs, and medicinals should be limited to planetary cultivation; one can safely assume that singular planetary conditions create the value of these goods, and these conditions are too difficult and expensive to replicate aboardship. Allowing characters to grow high-value crops on ships could also upset the economic balance of the campaign.

Rules for on-planet farming have been omitted from this article for several reasons. First, devising a system to portray such an enterprise with even moderate accuracy is beyond the scope of this piece. More importantly, the players shouldn't be encouraged to take on the roles of farmers — after all, they're supposed to be adventurers!

The prices, guidelines and commodities presented here are just suggestions. Referees should let their imaginations run free, changing things in order to derive the most in their role-playing sessions.

KALI: An American super-villainess with a background in crime and mysticism. She is wanted and has a long criminal record.

Identity: Sheena Grey Age: 20
Side: Evil Level: 1

Powers:

1. Heightened Expertise: Martial arts, +4 to hit
2. Special Weapon: Power-chuks, HTH +3 to hit, +1d6 damage, carries a Power Blast
3. Heightened Defense: -4 to be hit

Other Weaponry:

Katana, HTH +2 to hit, +1d6 damage
6 Shuriken, HTH +3 to hit, +1 damage, with a 13 inch throwing range.

Weight: 130 lbs.
Strength: 16
Endurance: 13
Agility: 13
Intelligence: 12
Charisma: 15
Dam. Mod.: +1
Accuracy: +1
Hit Points: 9
Heal: .9
Car. Cap.: 351
Basic HTH: 1d6
Power: 54
Movement: 42"
Det. Hidden: 10%
Det. Danger: 14%
Invent. Pts.: 1.2
Inventing: 36%



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BUYING AND SELLING

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The frontier is wide open and is not governed by galaxy-wide standards. Different worlds trade in different ways. Some provide a set price, while others haggle. Some worlds leave it to individual territories or even each establishment to determine how trade is carried out. Many bazaars exist throughout the frontier. Often characters will get shaken down by a vendor if they're not careful. The art of haggling is thus very important.

Also of importance is item quality. Items aren't always perfect. There are many manufacturers with many products of varying degrees of quality and cost.

There are many other factors that can lead to the adjustment of cost. Introducing this type of commerce into your campaign can add a flavor of being in a struggling society out on a wide frontier.

HAGGLING

Intelligence and a strong presence affect haggling skills greatly. Everyone has to barter at some point or other, so everyone is experienced with it, but not everyone haggles effectively.

To determine haggling score, add your character's INT and PER and then divide by 2. Modify the cost of the item in question by looking up the difference between your character's haggling score and the NPC's haggling score in the following table. If you prefer to roll for success, add the difference to your total if above the NPC, or subtract the difference from your total if below the NPC, and roll 1d100.

HAGGLING TABLE

Difference	Cost Modifier
1-5	--
6-10	+/- 5%
11-20	+/- 10%
21-30	+/- 15%
31-40	+/- 20%
41-50	+/- 25%
51-60	+/- 30%
61-70	+/- 35%
71-80	+/- 40%
81-90	+/- 45%
91-00	+/- 50%

You pay the cost of the item based on the difference between your score and the roll.

To simplify things further, you can simply take a list of items needing to be purchased and roll against your score to determine the cost of items purchased.

Your Referee may still require you to roleplay the sale after determining the difference through basic comparison of your score against the NPC's score. In such cases, you will want to make a good show of haggling or your Referee may choose to adjust the cost.

Note that new vehicles and engines cannot be haggled below 15% off unless they are used or are acquired through the underground market.



TAXATION

It is said that there are only two things in life that are certain: death and taxes. In the seeming need to avoid the issue of taxes, most role-playing games, Star Frontiers being no exception, leave taxes out of the system entirely. This is certainly understandable, as this can complicate even the simplest games. I certainly wouldn't want to break this tradition in the Star Frontiers game. Let's just say that the taxes are in at least some of the prices we are paying and that the corporations pay other living taxes for their employees.

QUALITY (VALUE)

All things made have varying levels of quality from very poor to extremely high, and this is demonstrated through design, workmanship, and quality of materials.

When a pre-owned item is purchased, roll on the following chart to determine its quality. If the quality is already known, and is to be purchased, multiply the list price by the percentage provided and add or subtract that number from the normal listed price.

QUALITY TABLE

Roll	Quality	Item Level*	Bonus/Penalty
00-04	High Quality	6	+20%
05-19	Very Good	5	+10%
20-29	Good	4	+5%
30-39	Average	3	0
40-69	Poor	2	-5%
70-86	Very Poor	1	-10%
85-96	Disposable	0	-20%
97-99	Worthless	--	--

Experimental items move up this list with each stage, starting with Disposable.

To move an item up the list that was acquired from a junk dealer (See Junk Dealers below), a person with the appropriate repair skill can repair an item of equal or lower level by taking 1 day for each difference in level of the item minus 1 for each level of the repair skill used times the number of steps moved up in quality. You cannot move an item further up in quality than its original quality level.

Bonuses and penalties also apply to all rolls made with the item. Add the number to the percentage chance. Additionally, the percentage is added to or subtracted from 100 each time the item is used or when determining structural failure according to the damaged item rules in the Alpha Dawn Expanded Rulebook.

AGING ITEMS

The age of an item will affect its quality. Every item moves down in quality 1 step for each PanGal year up to 3 years after its creation, and then 1 step for every .5 PanGal years. An item may be repaired, but still must follow age progression. If repaired after the first 3 PanGal years, the quality still continues to drop every .5 PanGal years.

Example: An item repaired in its second year takes 2 steps down in quality over the next 2 years, and then a step for each .5 PanGal years afterward.

To randomly determine the age of a salvagable found item, use the Age Table.

AGE TABLE

Roll	Age
98-00	New
93-97	.5 yrs
85-92	1 yr
78-85	1.5 yrs
70-78	2 yrs
61-69	2.5 yrs
51-60	3 yrs
41-50	3.5 yrs
32-40	4 yrs
24-31	4.5 yrs
16-23	5 yrs
11-15	5.5 yrs
01-10	6+ yrs

QUANTITY (VOLUME)

The amount of supplies you purchase can decrease expenses for you.

QUANTITY TABLE

Item*	Qty	reduced**
Staples	20 lbs.	%5
Technology	20 ct.	%10
Chemicals	20 gal	%5
Fuels	100 gal or 100 ct	%5

* Each product only. For instance, not just all fruit, but bananas only.

** Add a zero to the Qty to reduce the cost even further by the stated percent.

Under special circumstances, such as seeking to get rid of stock, a merchant may reduce his costs to be lower than the cost reductions in the table above.

AVAILABILITY

Different products are more readily available in some places than in others. The price of an item may be adjusted by the Referee based on its availability to the region, legality, rarity, or special order. This is the Referee's

AVAILABILITY TABLE

Circumstance	General Adjustment
Imported	Up to +20%
Contraband	Up to +50%
Questionable Acquisition	-50%
Rare	Up to +30%
Special Order	At cost
Direct	Up to -30%

discretion based on the region and item.

Region. The region can affect the product's availability through distance and legality. A region may be a whole section of space, a solar system, or just a single planet.

Legality. When an item can be obtained, but is illegal for public consumption, this can affect the cost substantially. If legally obtained from another source and in good demand, but illegal for general sale, known as contraband, the item may be marked up considerably and haggling is usually almost non-existent. If acquired through some question of legality, such as stolen, it is in need of being moved quickly, so the item may already be reduced in cost and may be easily haggled down further.

Rarity. Some items are exceptionally rare no matter where you buy them. These items are usually in very high demand, driving their cost up substantially. If you're after a rare item, expect to pay a hefty sum.

Special Order. These are items that the merchant doesn't normally sell or they are currently out of stock on. You are generally only allowed to pay the full cost of the item without haggling. If the item was on sale, you may order it at the sale price only if you pay in advance.

Direct. Sometimes you can purchase items directly from the manufacturer if you buy on the planet of the manufacturer. This can afford you some significant cost reductions up to 30% off the listed price for new items.

SERVICES

Common services such as engine repairs, overhauling, weapon repairs are all subject to differences in cost in similar ways to products so may use many of the same tables from this article, but are usually not able to be haggled, unless dealing with individual contract workers.

UNDERGROUND MARKET

The closer you get to the rim worlds and further away from Pan-Gal, the more expensive items and fuel are. This is because of both traveling distances and piracy. Because of this, the most expedient and least expensive purchases are going to be those found on the black market.

SMUGGLING

Smuggling is a lucrative business in the frontier. With so many trying to avoid detection or the transfer of questionable or much needed materials for starving colonies, smuggling is the cogs that keep the Frontier moving. For this reason, it is tentatively tolerated by the authorities.

Smuggling is a great way to make money and is also a great way to acquire anything you need. For the right price, a smuggler is often willing to transport any goods you ask them to.

Generally, the cost for smuggling items will be around 1/3 the actual cost of the items. Use the haggling chart above to adjust the cost

SLAVERY

Slavery is a condemned practice in the UPF, but may be found on certain rim worlds, especially among certain rim races. Star Law does not enforce anti-slavery laws on the rim worlds unless the physical health of the slaves are being endangered, and when certain people of at least moderate importance are forced into slavery.

Slavery is also looked down upon because of the availability of robots. If you wish to buy a slave for whatever reason, it will cost you around 20,000 Cr. The tables in this article may also apply to slave purchases. There are 3 types of slaves: those who are force into slavery, those who are paying off a debt, and those who volunteer themselves to slavery in exchange for food and lodging. Those forced into slavery are considered to be under Questionable Acquisition in the Availability Table.

JUNK DEALERS

Salvage is a booming business, making junk dealers extremely common and a good alternative to the underground market or paying the full price for new items. However, without someone to repair or reconstruct the item, there are going to be quality issues affecting the item. Roll twice on the Quality Table. Whichever roll is higher is the unchangeable original market condition of the item. The lower roll is the current condition of the item.

LOCAL BARGAINING CUSTOMS

Different worlds and different species have varying customs for trade. It's important that your character be familiar with the local customs or he/she could inadvertently end up offending someone and even getting him or her self run out of town if not shot.

CORE WORLDS

Customs on the core worlds are fairly amalgamated, but there are still certain differences that are good to know.

Dramune. Cut to the chase. Dramune is a world with a dark past and secretive tendencies. They don't like to pussyfoot around. They want to know why you're there and what your offer is.

Pan-Gal. Small talk before the sale. In contrast to Dramune, Pan-Gal is the heart of the UPF and Star Law. Everything is either by the book, or needs careful

discussion to get hints for, so it is just a matter of course that every merchant is going to talk you to death, even if only to live through the excitement of the stories you have to tell. So be patient and guide the conversation toward the end of the sale. It won't offend them. They're used to it.

Zebulon. Act like each and every offer of the other person is outrageous. The seller glorifies its good points while the buyer deflects with equally exaggerated bad points to express why a certain cost should be retained or lowered.

OUTER REACHES

The worlds of the more isolated outer reaches are more diverse and dangerous. The more your character knows about the local customs, the safer your character will be.

Capella. Continually shake hands during negotiation. Start with offering outrageous sum for the item, then seller obligatorily rejects the sum as too much, then the seller gives a more realistic sum that you may now haggle on.

Hades. Handshake under cloth using fingers to negotiate cost while conducting small talk. -10 haggling modifier to characters not from Hades. Attempts to negotiate any other way, or breaking off the negotiations can lead to deadly conflicts.

Hents. Obligatory gift exchange and constant blessings between offers. Yazirians are a religious and oft times superstitious lot, so blessings help put them at ease. In fact, it is considered an insult if you don't offer a blessing upon meeting with any Yazirian on a Yazirian world. Strangers and outsiders are not trusted to begin with, but not providing blessings can make one an absolute outcast.

K'tsa Kar. Squat (or sit in a chair) and show disinterest (minimal eye contact). Vrusk are very intelligent and find haggling to be very mundane, so their haggling practices are going to reflect their attitude toward it.

Theseus. Unbroken eye contact while performing the negotiation forming each offer as a demand (You may blink). Theseans want to be trusting, but they've received many bad deals in the rim, so they want to look you in the eye and know if you're telling the truth or not. Theseans receive +5 to perception checks to detect deception during transactions.

ACQUIRE NEW ADVENTURES

Buying and selling can lead to adventure in many ways, including sales gone bad to accidentally acquiring a private project that got tossed out and now a crime lord is after it. Whatever the case, adventure is one sale away.

