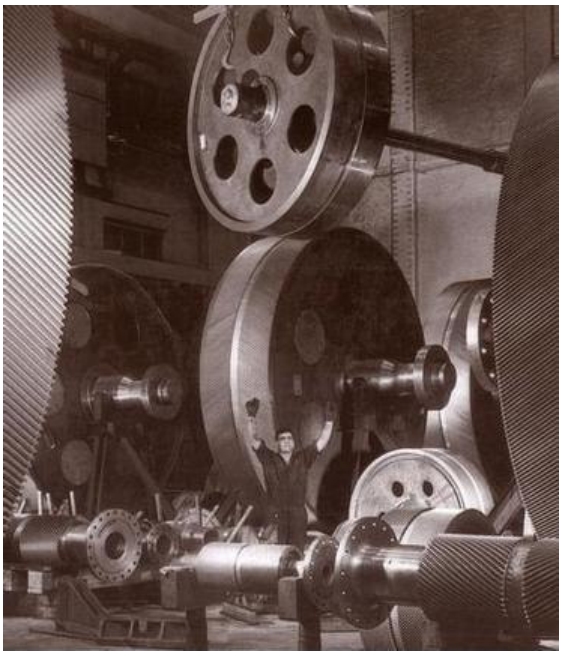


2. Economy

2.1 National Economy – Each Major Nation has an Economy that is comprised of its Base Economy, Industrial Cities, Colonies, Conquests, and Minor Allies. The Axis Major Powers are the European Axis – Germany and Italy, and Japan. The Allied Major Powers are the Western Allies – Britain, France and the USA, Nationalist China and Russia.

2.1.1 Base Economy – The Base Economy of Most Nations starts at 0, the exceptions being France (1,000) and Italy (500) as well as Nationalist China (1,000), which is a special case. All of the Major Nations (except Nationalist China) experience Growth during each YSS based upon their Strategic Reserve of PPs and reduced by Strategic Warfare damage. This then becomes the Base Economy for the Year until the next YSS. Therefore, the Base Economy of a Nation is fixed until each YSS in which it is calculated.

2.1.2 Economic Growth – Economic Growth is calculated during each YSS for each of the Major Nations as indicated on the Growth Chart. The % Growth for that YSS is multiplied by the amount of PPs in the Strategic Reserve less the amount of SW (Strategic Warfare) damage. It is possible that Growth will be negative, and a negative Base Economy is also possible. The reason growth increases during each YSS is because the game has a fixed ending in 1946, and therefore the return on investment will not be available after that time. In addition, the wartime economies did indeed experience a growth that took some time to peak in most cases in about 1944, although for game purposes this has been adjusted. Note that negative growth is also less for Italy and

France, just as positive growth is, and in any case Nationalist China will not experience any Growth.

YSS	USA	Britain	France	Russia	Germany	Italy	Japan
1940	12.5%	12.5%	10.0%	12.5%	12.5%	10.0%	12.5%
1941	15.0%	15.0%	12.5%	15.0%	15.0%	12.5%	15.0%
1942	20.0%	20.0%	15.0%	20.0%	20.0%	15.0%	20.0%
1943	25.0%	25.0%	20.0%	25.0%	25.0%	20.0%	25.0%
1944	30.0%	30.0%	25.0%	30.0%	30.0%	25.0%	30.0%
1945	40.0%	40.0%	30.0%	40.0%	40.0%	30.0%	40.0%
1946	50.0%	50.0%	40.0%	50.0%	50.0%	40.0%	50.0%

2.1.3 Industrial Cities – Most of the Major Nations have Territories and Cities that represent economic value to the Nation. In most cases, these values are fixed, but for Russia they increase over time and for Japan they increase as a result of Mobilization. The USA has cities, but these are represented instead by a generic "USA West Coast" and "USA East Coast" since the cities themselves are not represented on the Map. Industrial Cities that are captured are lost to the Economy (and are usually a gain to your opponent). In addition, Industrial Cities may be targeted by Strategic Bombing, which may inflict SW damage up to their PPs value each Turn. The value and number of these are too many to list here, but the National Sheets have a list of all of these.

2.1.4 Colonies – Colonies are basically other very minor nations or territories that are associated with a Major Nation. These Colonies are always captured when their Capital is occupied, and the side that occupies the capital gains the economic benefits of the Colony. Strategic Bombing does affect Colonies, and while there may not be many true industrial targets, the Capital represents overall targets and supplies and such that would likely be available as targets to enemy bombing. The Colonies in Europe include all of the North African and Middle East Territories, Northern Ireland (Belfast), Slovakia and the Ukraine. In the Far East, Colonies include the Philippines, Hawaii, Burma, Hong Kong, Malaya, Singapore, French Indochina, Java, Sumatra, Borneo (the Dutch East Indies), Formosa (Taipei), Korea, and Manchuria (Mukden and Harbin). There are also some other Colonies too small to have any value, such as Portuguese Timor and Brunei. Siberia is considered an integral part of Russia and its value is represented by its two ICs (Vladivostok and Irkutsk).

2.1.5 Conquests – Conquests are just as they sound, representing Territory that has been occupied by your forces and won in battle. These include most occupied ICs and Colonies that are taken over by your forces. The ICs of Japan and Germany, however, will yield no value to the Allies when taken. Russian ICs are frozen at their current value when occupied by the Axis. Chinese Cities are worth only 50% to the Japanese as conquests (250 PPs each), and Yenan has no value at all except to Communist China. The only Base Economy that may be used as a Conquest is that of France and any Minor Nations that are occupied and have a Base Economy.

2.1.6 Economic Cooperation – Minor Nations that integrate with a Major Nation become a part of that Nation's Economy (reflecting integration of trade and the like).

This will occur as a result of Diplomacy only and is covered in detail under 3. Diplomacy. A Minor Nation may have some or all of its economy integrated, and this can happen under different conditions such that sometimes the Nation will still be Neutral, other times they may have some form of cooperation with the Nation or they could be full Allies already.

2.1.7 Trade – Trade is the lifeline of most economies, and while it is often curtailed during war the following economic effects are modeled in the campaign to reflect its effects on the war:

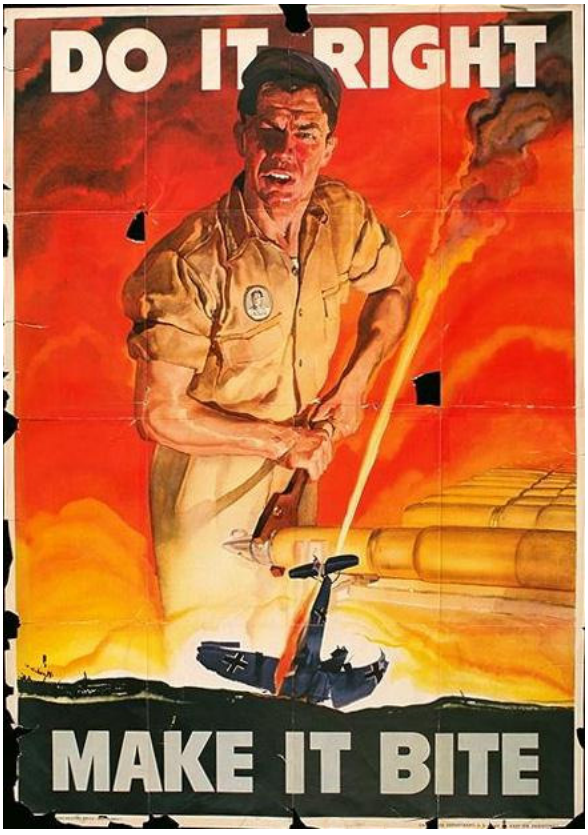
2.1.7.1 German-Russian Trade – Germany and Russia were "partners" at the start of the war in the invasion of Poland as well as in trade agreements. This amounts to 500 PPs for Germany and Russia each Turn until such time as the Tension between the two governments increases to 40, which reduces the trade value to 250. Once the Tension Level reaches 50 or both Nations are at War, Trade is eliminated. In addition to the economic benefits, Germany also receives 1 Unit of Oil every Turn from Russia until Tensions reach 40, at which point the Oil shipments are halted.

2.1.7.2 Italian Trade – Italy's economy was hit hard by the loss of trade when they declared War on the Allies. SW damage equal to 500 PPs is incurred once Italy is at War with the Allies (regardless of who made the DoW).

2.1.7.3 British Merchant Shipping – Britain's economy was largely dependent upon shipping, hence the German attempt to strangle Britain by destroying its merchant ships in the Battle of the Atlantic. However, Britain was also vulnerable in the Indian Ocean and in fact at one point in the war Japan attacked and sunk many ships in those sea lanes as well. 50% of its economy (exclusive of its Base Economy, however) in Britain, Canada, South Africa and its Atlantic possessions in Europe must be assigned to shipping (see Naval Warfare for greater detail on how convoys are assigned and may be attacked). 50% of India, Australia, and its Pacific and Mediterranean possessions must be assigned to shipping in the Indian Ocean. Each 100 PPs or fraction thereof is assigned a Transport. If a Transport is lacking (i.e. you don't have or don't assign enough Transports), then the PPs is immediately lost from the economy. If the Transports are assigned but damaged, destroyed, or forced to abort their mission by enemy attacks, then the economic effects are listed as SW damage instead.

2.1.7.4 USA Merchant Shipping – The USA, while less dependent on shipping than Britain, nevertheless has a tremendous amount of trade carried by sea. Therefore, as its economy expands, shipping needs will also increase. The USA must run convoys in the Pacific equal to 20% of its West Coast economy and 50% of its Pacific possessions. In the Atlantic, it must run shipping equal to 30% of its East Coast economy and 50% of its European possessions.

2.1.7.5 Japanese Merchant Shipping – Japan's economy also revolved around its shipping from the colonial empire it had established. In fact, the USA had by war's end succeeded in doing to Japan what Germany had tried to do to Britain in strangling their trade. Japan must assign convoys in the Pacific (on-map) equal to 50% of its economy. This does not apply (nor does it to the USA or Britain) to any "Base Economy" built up by economic growth, however.



2.1.8 Mobilization – The USA and to a much lesser extent Japan have an Economic Mobilization that occurs as a result of the War. This increases the value of both Industry as well as Shipyard Capacity for the Nations as follows:

2.1.8.1 USA – The USA has 10 mobilizations that occur for each theatre of the War, for a net of 20. Each mobilization adds 1,000 PPs to the Economy of either the West or East Coast, and 250 PPs of capacity to each of the two shipyards on that coast as well. Mobilizations occur as a result of the Axis-USA Tension Level and the Japan-USA Tension Level for the East and West Coast respectively. No more than 1 Mobilization can occur on each Coast each Turn, and once the USA is at War with either Japan or the Axis the mobilizations will by default be 1 per Turn until they reach 10.

2.1.8.2 Japan – Japan gets 3 much smaller mobilizations, each of which adds 250 PPs to the value of one of its cities, and 250 PPs of overall capacity to its shipyards (see the Japanese sheet under the Economics workbook for details). Japan may choose when to conduct its mobilizations during the diplomacy phase of any turn it chooses, though the maximum is 1 per Turn. The reason Japan may choose not to do so

immediately is that this will greatly affect the Japan-USA tension level. In addition, the mobilizations are required when tensions reach 10, 20 and 30 respectively (i.e. at Tension 10 the 1st mobilization occurs automatically if it has not already done so, then the 2nd at 20, etc.) as long as this does not conflict with the maximum of 1/turn (very unlikely).

2.1.9 Russian ICs – Russian Industrial Cities (ICs) have some unique characteristics that differentiate them. These include a rapid mobilization of industry that allowed Russia to achieve substantial industrial output by the end of the war and an amazing ability to relocate entire industrial complexes and factories to more remote (and therefore safe) areas in Russia.

2.1.9.1 IC Mobilization – Russia begins with ICs in Moscow, Leningrad, Stalingrad, Kiev (the Key Cities), Dnepropetrovsk, Kharkov and Rostov in Europe and Vladivostok and Irkutsk in Siberia. Each time the Russo-German Tension Level reaches 10, 20, 30, 40 and finally 50 Russia adds one of 5 additional ICs to the European Map. These are added to Gorki, Kuibyshev, Sverdlovsk, Kazan, and Ufa respectively. Adding an IC then upgrades each city from a Minor to a Major City. However, no more than 1 new IC may be mobilized every 2 Turns.

2.1.9.2 IC Economic Value – ICs are each worth 500 PPs initially. Newly mobilized ICs are worth 250 PPs when placed, and increase by 250 PPs per Turn (this is done during the Logistics Phase) until they reach their maximum value (initially that would take 2 Turns). That maximum value increases during the course of the war from its initial 500, however. If the Axis makes a DoW and attacks Russia, all of its European ICs will begin to expand in value, starting in the first YSS following the Axis DoW, and increasing by 250 PPs each YSS to a maximum of 1,500 PPs (for example, an Axis DoW in 1941 results in a 1942 YSS increase to 750 PPs for each IC, increasing to 1,000 PPs in 1943, etc…). If there is no earlier Axis DoW, or Russia makes a DoW instead on the Axis, then this increase does not begin until 1943, and the final increase to 1,500 PPs does not take place until the 1946 YSS accordingly. Keep in mind that

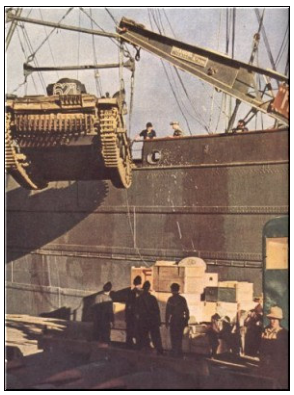
regardless, the increase cannot exceed the rate of 250 PPs per Turn. In Siberia, a Japanese DoW against Russia affects the IC value of Irkutsk and Vladivostok instead, but otherwise the increase will being in the 1943 YSS as above.

2.1.9.3 Russian Key Cities – Russia has four Key Cities of particular value to them, being Moscow, Leningrad, Stalingrad and Kiev (the capitol of the Ukraine). Each of these cities is worth an additional 500 PPs to Russia. This additional value, however, is exclusive to Russia and cannot be captured by the Axis. Kiev is an exception, and its value is determined by the Diplomacy of the Ukraine. If the Axis can make the Ukraine an ally, it may gain the PPs Value of Kiev (as the Capitol of the Ukraine), which it can have regardless of whether or not Russia has redeployed the Kiev IC. Russia may not redeploy any of the other ICs of its Key Cities, however (i.e. the Moscow, Leningrad and Stalingrad ICs are fixed in place).

2.1.9.4 Isolated ICs – Each IC must be able to trace a land route to either the Urals Box or Moscow, otherwise they are considered isolated and the value of the IC is lost as SW damage each turn it remains isolated. In addition, no growth is possible while an IC is isolated, but this will resume as soon as it becomes connected again.

2.1.9.5 Capture or Destruction of ICs – During any Logistics Phase, Russia or the Axis may elect to permanently destroy an IC if they choose to. An IC that has been destroyed can never be rebuilt again. Destruction of its IC has no effect on the additional value of a Key City, however. If the Axis capture an IC, its value remains but becomes frozen at its current value and will never increase in the future. The Axis also suffer from SW loss if a captured IC is isolated and cannot trace a route to Berlin (in Europe) or a Pacific Port (in the Far East).

2.1.9.6 Redeployment of ICs – Once Russia is at War with the Axis, Russia may elect to redeploy one of its ICs each Turn during any Logistics Phase, *but this excludes the Turns subject to an Axis Blitz (the first one or two Turns of a surprise attack)*. Russia may not redeploy any of its Key Cities except for Kiev, and doing so has additional negative repercussions on Ukrainian Diplomacy. In addition, both Vladivostok and Irkutsk may not be redeployed nor does a Japanese DoW have any affect. Redeployment begins in the Logistics Turn and freezes the IC at its current value, and SW damage equal to the value of the IC is incurred. On the following Turn, the IC is in transit and no PPs is gained from it, and in that Turn's Logistics Phase it may then be placed in any European City that does not currently have an IC (if that is a Minor City, it then becomes a Major City). Growth, if applicable, will then begin again on the following Turn. Note that the "Growth" occurs during the Logistics Phase each Turn, but that if you elect to redeploy an IC it cannot grow that Turn, nor on the Turn following, so there are two Turns of growth lost, in effect.



2.2 Supply –

Supply in PG II is called Prestige, and you can buy and repair units based on Prestige Points. This reflects the nature of PG II in that you are supposed to be a commander and your "Prestige" affects what the high command will give you. In the Campaign, since you are the high command I have called it Supply instead but retained the PG II terminology by designating supply here as PPs (Prestige Points). Since PG II

does not model actual supplies and getting ammo and fuel is "free" with a repair or supply action, the actual use of PPs is for repairs. However, it matches well with the fact that to attack effectively you will need supplies, and plenty of them, to be able to sustain your attack. In fact, in many cases you can win a fairly even game by having more supplies and outlasting your enemy! Remember that for all of the below, you cannot purposely go to a negative result or "deficit spend" at any time (in rare cases or if corrections for errors need to be made this can sometimes be indicated, but these are exceptions).

2.2.1 Strategic Reserve – The Economy directly generates PPs as well, but these are not yet Supply PPs until they are designated as such. Each Turn during Orders, a Major Nation may assign its PPs to Production or to Supplies. Supplies must be assigned to a Command Reserve and along with Production is indicated on the Nation's Production Sheet. Each Turn, any unspent Economic PPs is assigned to the Strategic Reserve. This is available for use in the following Turn except for the Winter Turn of each Year. After the Winter Turn, all Reserves are combined with all SW damage and the next total is multiplied by the growth rate and changes the Base Economy of the Nation (permanently). The only exception to this is Nationalist China, which has no growth and therefore always maintains a Strategic Reserve as available. In this case, SW damage is also assessed on a turn-by-turn basis and any negatives are therefore immediately accounted for.

2.2.2 Command Reserve – The Command Reserve is the PPs available within an Army Command. This is represented by PPs that has been allocated from production as well as shipped in via air or naval transport, depending on the command. Only supplies already in the reserve may be used during orders. Other supplies, either those shipped in or allocated via production, will not be available for use until the Logistics Phase. The Command Reserve will also contain any new units allocated during production or shipped in, which are made available in the same manner as supplies are.

2.2.3 Supply Allocation – Supplies are allocated to formations within a command reserve during either orders (as a re-supply order) or during logistics. The supply level and the size of the formation affect how much supply can be drawn. Each unit indicated can be either 1 new unit, a replacement unit, or 100 PPs (or fraction thereof) of supply.

2.2.4 Supply in Combat – Any formations that take part in a battle have their supply pooled and added into the PG II battle. Following the battle, remaining PPs is re-allocated back to surviving formations on a more or less proportional basis (I will calculate the amount as exactly as possible, but complete precision is not always possible or necessary). Garrisons and coastal units may be allocated supplies directly from the command reserve at a rate of 2 PPs per strength point. This does not apply to "free" garrisons, but only to units that are listed and tracked on the National sheet. No supplies are provided for any purely Naval or Air (Strategic Bombing or attacks on Naval Units) Battles, only for land battles.

2.2.5 Capture of Supply – Supply may be captured during Battle or as a result of the capture of a command. In Battle, if a force surrenders or is routed (loses in a blitz), it loses its supplies. Surrender refers to any individual units, formations, or voluntary surrender. If applicable, this needs to be allocated in proportion when some units surrender and some escape. If a command is taken and supplies cannot be evacuated by sea or land routes, then any remaining supplies or units are captured as well. Supply is captured on a 1 for 1 basis, and equipment on a 1:2 basis (i.e. half strength). Some equipment that is captured can be used in the game, otherwise it can be converted to PPs instead.

2.2.6 Lend-Lease – Lend-Lease aid can be sent as either supplies or as economic aid. When sending the PPs, the granting Nation must designate if the aid is to be Supplies or Resources. The difference being that Resources will be added to the Strategic Reserve and available for any use, but Supplies are placed in a Command Reserve instead. This allows the Supplies to be immediately used on the following Turn, but at the cost of the flexibility of buying whatever you wish with PPs in the Strategic Reserve.

2.2.7 Replacements – Replacements account for fixing damaged units outside of Battle, replacing older equipment with newer equipment, replacing destroyed units within formations, and repairing damaged naval and air units. Replacement units that remain in the same reserve during the orders phase (i.e. they were not built this turn nor were they moved) will automatically receive 25 experience in training, to a maximum of 100.

2.2.7.1 Equipment – New Units may be used to replace an existing Unit's equipment or added into an available slot within a formation (according to its Organization). If an existing unit's equipment is upgraded, the experience and any leaders it has remain and it is brought back to full strength with the new unit replacing the older one. The older unit is then sent back to the reserve with the same experience the replacement unit had (if any) and at the same strength level it had prior to being replaced. This replaced unit may instead be used within the same formation as a replacement itself, otherwise it is returned to the

reserve and not available until the next phase in which replacements can be drawn. This latter reflects an ability to "swap units" within a formation.

2.2.7.2 Unit Repair – Damaged Units can be repaired while playing the PG II battle out by using existing supplies. However, when supplies run out or if the battle ends while adjacent to enemy units it may not be possible to fully repair a unit. Damaged Units can be repaired any time that Supply may be allocated, and is indicated on the formation sheet under "repair" and automatically calculated by the spreadsheet.

2.2.7.3 Naval Unit Repair – Naval Units can only be repaired in Ports or Shipyards. A Naval Unit that sustains damage greater than 2 in a battle must be repaired at a Shipyard, so only 8 or 9 strength naval units can be repaired in a Port. A minor port can repair 1 damage only (9 strength to 10) and a major port can repair up to 2 damage (8 or 9 strength to 10). In a shipyard, Naval Units are repaired in the same manner as they are constructed, and also affect shipyard capacity. Naval Units that sustain damage in a battle and are forced (or elect to) return to port can choose any shipyard to return to (but are subject to interception during the breakthrough phase).

2.2.7.4 Air Unit Repair – Air Units may only be repaired during orders and the PPs required is drawn directly from the strategic reserve of the Nation's economy, regardless of the location. This is not entirely accurate, but since air units are for the most part very mobile it is assumed that once you move an air unit to a location that includes various replacements and support as well.

2.3 Production –

Production orders allow you to build new units to create new formations or provide replacements or upgrades to existing formations and units. Production of new units follows the Equipment Schedule of each Nation, so will vary turn by turn as the game progresses and new equipment becomes available and older types become obsolete.

2.3.1 New Production – New Units are built during Orders and assigned to the appropriate command reserve. In some cases, builds may be required to be placed in some locations or may optionally be placed in certain locations. Builds in another location than the default home command should be noted during orders and will be given an optional slot to indicate such.

2.3.1.1 Obsolete Equipment – Obsolete equipment may be scrapped and added back into the strategic reserve. Scrapping gives you 50% of the strength remaining, rounded up, as a "negative" repair. All experience in such units is lost, though you may first "transfer" to any of the same type unit within the same reserve. Another option is to use some or all of the unit's strength for repairing other units of the same equipment type within the reserve. Finally, something obsolete to say Germany may not be for a Minor Ally, so if it is a unit they are capable of using (one that historically they used), you may provide the unit to them. When scrapping a unit, just indicate it is scrapped and I will manually add the PPs to your Strategic Reserve during Logistics.

2.3.2 Infrastructure – Infrastructure such as Air Bases, Fortified Lines, and the Repair of damaged Refineries are built from supplies in the Command Reserve during Orders, and not from production. They are then placed in any location within that Command Reserve during Logistics. Other Infrastructure, such as Oil Refineries or fixed units like coastal guns are built during production like other units are.

2.3.3 Allied Production – The Allies of a Nation may have special equipment that they may build. They also often share equipment that their Major Nation ally produces, and in such cases these units will cost the same (though their stats may be different) and can be assigned to the Minor Ally on an as-needed basis. Other Allied production is indicated as another available unit on the production sheet.

2.3.4 Shipyards – Shipyards are the only way that new Naval Units of any type can be built. Captured shipyards may also be used, and their full capacity is available for production once they have been occupied.

2.3.4.1 Shipyard Capacity – A Shipyard's capacity is the maximum total amount that can be allocated to either building or repairing ships during one Turn. This number cannot be exceeded, even by 1 PPs during any one Turn.

2.3.4.2 Build Rate – This is the amount that may be allocated to any one ship during the Turn. This will mean that larger ships may take longer to construct, but smaller ships may be built quickly. This is always equal to 20% of the Shipyard Capacity, and again the amount spent on any one ship cannot exceed this amount, even by 1 PPs. If 1 point costs too much, then the ship is beyond the capabilities of this Shipyard and needs to be built or repaired elsewhere.

2.3.4.3 New Construction – When you "lay down" a ship, write the type under the Shipyard in question, and its total cost. It costs 1 Strength Point to "lay down" the ship, and 1 to "launch" it, so 12 points builds a new ship, and since repairs cost 1/12 of the total cost per point, this means the build rate matches that of the total cost. You may choose to keep building a ship at any pace you wish, as long as it does not exceed the capacity of the shipyard.

2.3.4.4 Naval Repair – Naval Repairs in a shipyard follow the same rules as new construction, except that when the ship enters it will be at its damaged strength, and it need only be repaired to strength 10. Once repaired, a ship may then be placed within any friendly port

2.3.4.5 Captured Ships – When a Nation surrenders, some or all of its ships may become captured prizes of war. In the case of most minor nations, this is indicated under diplomacy and includes allocation of captured transports. In many cases, ships will also escape to fight with the opposing side. In the event that a major nation surrenders or loses a shipyard, some ships may be under construction or repair. These ships are reduced by 50% in strength (rounded down) and may be built or repaired to completion. Captured ships used by the opposing side are manned and operated by that navy so the experience of that Navy applies, but is reduced by 100 to account for difficulties in the operation and use of foreign designs (and probably lack of enough manpower as well).

2.3.4.6 Scrapping Ships – Naval Units under construction may be scrapped for a PPs value of half their remaining strength (rounded down). If a unit under repair is scrapped, the value is 50% (rounded down) plus 1. Note that when scrapping ships, you assign negative builds equal to the scrap value. However, this does not "increase" the capacity of the shipyard, which remains the same. It is easier in such cases to look at the totals manually, rather than build a formula to handle the few times it occurs.

2.4 Resources – Certain vital resources had a significant strategic effect on the war and its prosecution, most notably Oil. This was particularly dear to the Axis, who had no significant natural sources of Oil in their homelands. Nationalist China has no need for (additional) Oil or Resources – their economy and forces are weak but used to working at a subsistence level.

2.4.1 Oil Sources – There are a limited number of sources of Oil represented on the Map. Oil is the fuel that allows your economy to expand, your armies to march, your navies to sail, your air force to fly, and your supplies to move. Each Oil Source has a limited number of Oil Units it produces each Turn. This Oil must then be shipped to a Supply Center where it may remain in reserve and can be used as needed. The following Oil Sources are available in the game, and while they cannot be built or destroyed, they may be captured, damaged, or their shipments can be disrupted.

2.4.1.1 Russia – Russia has significant Refineries for its needs, primarily in the Caucasus. Russia controls the following Refineries: Urals Box (1) Grozny (1) Maikop (1) Baku (2) for a total initial production of 5 Oil Units per Turn. Russian production of Oil in the Urals gradually increases during the War, and production reaches 2 Units per Turn when IC Value (in Europe) increases to 1,000 PPs, and to 3 Units when IC Value tops out at 1,500 PPs. In addition, until the Russo-Axis Tension Level reaches 40 or higher, Russia must send 1 Oil Unit per Turn to Germany. Russian Refineries are automatically damaged when captured except when taken via a Blitz Attack (in less than 12 Turns). Russia or the Axis may also voluntarily damage the Refineries they occupy during any Logistics Phase. Russian Refineries on the Map can also be bombed, and naval transports may be attacked, but the Urals Refinery(s) cannot be captured or damaged.

2.4.1.2 Middle East – Outside of the USA, the Middle East has the greatest reserves of Oil available. While both Iraq and Persia are Neutral, they both have agreements with the Western Allies to provide them with Oil. This can of course change as a result of Diplomacy or occupation, which is what happened in the actual war and both Nations were therefore occupied by the Allies. In Iraq, Mosul produces 3 Oil per Turn. Persia has two sources of Oil, Bushire and Ahwaz, each worth 3 Oil per Turn. At the start of the game, the

Western Allies may draw upon up to 3 units of Oil from Mosul and 3 from Persia each Turn. The remainder of the Oil is sent to the International Market until such time as the Oil Embargo is imposed on Japan . At that point, 6 Oil become available to the Allies (which may also be shipped to Russia). If any Middle East Oil Sources are captured from the Allies or their native countries, the refineries are captured intact, even if the battle was not a blitz.

2.4.1.3 Rumania – The Rumanian Oil from Ploesti was the largest source of Oil for the European Axis. Ploesti produces 3 Oil per Turn, which may be sent to the Axis by any land route. A Neutral or Allied Rumania has an agreement with the Axis to provide this Oil. The Rumanian Oil Refineries are damaged unless captured by a Blitz, and may only be voluntarily damaged if either the Axis (or Russia) have more units in Ploesti than the Rumanians currently have in the war.

2.4.1.4 The Far East – The Far East only has two significant sources of Oil, and these are Palembang (in the Dutch East Indies) and Brunei. Each supplies 2 Oil per Turn, and the Refineries are damaged unless captured by either a "Blitz" or during Japanese Surprise conditions (Japanese-USA Tensions are less than 40). Japan may also choose to damage these facilities voluntarily during any Logistics Phase. Initially, Brunei is controlled by Britain and the Dutch East Indies provide Oil to the International Market.

2.4.1.5 USA – The USA produced something like 60% of the world's Oil during the war, so Oil supplies in the Americas are considered automatic. However, Oil must still be shipped overseas to the various locations needed, which means that shortages can take affect. In addition, not all of the Oil will be available for export. The USA can ship up to 1 Oil Unit in each Theatre for each level of Mobilization. This Oil can be sent to any of the Western Allied Supply Sources in the Theatre.

2.4.1.6 The International Market – The International Market represents freely available Oil that can be purchased prior to full hostilities breaking out. As the War escalates, this supply diminishes rapidly. Prior to an Oil Embargo, Japan may purchase up to 4 Oil Units per Turn on the International Market. One the Embargo takes place (see USA-Japan Diplomacy) this is reduced to 2 Units, and on the following Turn 0 Units. The USA also experiences a loss of 500 PPs of SW damage when they impose the embargo, and a further 250 PPs on the following Turn. Other Nations that may access the International Market are Italy, France and Britain. Italy may buy up to 2 Oil Units per Turn until at war with the Allies. France may buy 3 Units per Turn, and Britain may buy 3 Units per Turn. Each Nation making the purchase does need to assign a Transport to carry the Oil. In Europe, after the fall of France Britain may still do so but must assign the Transports to a convoy from South America, and this is subject to Interception. South America will remain a source of oil for the remainder of the war, except in the case of an Allied DoW against a Neutral Spain or Portugal, in which case this source will be cut off.

2.4.2 Oil Refineries – Oil Sources on the Map may be attacked by bombing the Oil Refineries associated with each source of Oil. Each Oil Unit that is produced is equal to 1 Refinery.

2.4.2.1 Bombing Refineries – Each Refinery bombed is 3 Targets and is attacked in the same manner as Factories (see Strategic Bombing under Air Warfare). For each 500 PPs of bombing damage, a Refinery is damaged and unable to produce any Oil until it has been repaired. Any fractional damage below 500 PPs results in SW damage only but no further Oil effects.

2.4.2.2 Damaged Refineries – Refineries may be damaged either by Bombing or by being Captured in a Battle. However, whenever Refineries are captured by a Blitz attack (during Battle achieving a Blitz, or winning in a Breakthrough Battle) or during a Japanese surprise attack, they are captured with no damage. Finally, the Axis forces or the Russians are also allowed to do voluntary damage to Refineries during any Logistics Phase. A damaged Refinery produces no Oil Units for allocation until it is repaired. You may repair a Refinery during the Orders Phase from PPs available in the local command as an Infrastructure build. Note that while the repair takes place during Orders, no Oil is available to be allocated that Turn.

2.4.2 Synthetic Refineries – Germany begins with 2 Synthetic Refineries, one in Breslau and one in Essen. Each Turn, these produce 1 Oil each, and are otherwise similar to other Refineries except that they cannot be captured (they are destroyed). New Synthetic Refineries may be built, each costing 4,000 PPs with a build rate of .25 per Turn (1 per Year can be built). Only 1 Synthetic Refinery may be placed in each Major City in Germany.

2.4.3 Oil Shipment – Each Turn, Oil produced at a friendly Refinery must be shipped to a friendly Supply Center. From the Supply Center, Oil is then used by the Nation for its various functions.

2.4.3.1 Oil Allocation – During the Orders Phase each Turn, Oil that is available from all friendly, undamaged Refineries must be allocated to a Supply Center and shipped by Land or Sea. It arrives during the Logistics Phase and is added to the available Oil Reserves at that time, assuming that the shipment was not interrupted.

2.4.3.2 Shipment by Land – Oil Units from Rumanian and Russian Refineries may be shipped to a Supply Center by any available friendly land route. However, Middle Eastern Oil has far less infrastructure and shipment is only possible over certain land routes via pipelines. Persian Oil may be sent by land to Baku, Kransnovodsk, Basra, or Bushire. Shipment by land may continue through Russia and Europe by any land route, and then even by sea via Ports in the Caspian or Black Seas. Iraqi Oil from Mosul is even more limited, and may only travel by land to the Ports of Beirut, Basra, or Kuwait and from there by Sea. Shipments by land may be attacked along their route by capturing the territory along the route during the Turn (not capturing the territory itself, which would not halt the oil already en-route). In addition, special forces or partisans may also attack and damage oil sent by land in the Middle East (see irregular warfare section).

2.4.3.3 Shipment by Tanker – Oil sent by Sea is sent by Naval Transport (Tanker). This can be part of the existing convoy system or sent along with any other Naval Mission. Like merchant ships, damaged tankers will cause 10 PPs of SW damage per point of damage sustained. However, in addition to that, any Tanker destroyed completely will also eliminate the Oil Unit it is carrying. Partial damage of a Tanker or multiple Tankers does not affect the Oil Unit otherwise, only sinking the ship (named in the battle as a Tanker). If Russia uses Tankers to send Oil via the Caspian Sea, these too are vulnerable to attack (usually by air only). Shipments from the USA East Coast must be sent from the Gulf of Mexico, where most of the Oil originates.

2.4.4 Resource Requirements – This only applies to Germany, Italy, France, and Russia. For Britain, Japan and the USA, their Economy relies upon shipment of resources via merchant marine, and this is already vulnerable to attack. Therefore, they are assumed to have the required resources and if adequate shipping is not assigned then they will suffer serious economic effects already. For the former Nations, they must assign Oil and Metal Ores in order to avoid a shortfall in resources and SW damage to their Economy.

2.4.4.1 Germany – For each 5,000 PPs of the German Economy, or Portion thereof, they must assign 1 Resource or suffer either 500 PPs of SW damage or 10% of any portion of the economy (i.e. if you assign 1 resource for 8,000 PPs, you will suffer 10% of the remaining 3,000 that is not covered, or 300 PPs of SW damage). For each Unit of Oil assigned to the Germany Economy (from the Berlin Supply Center), Germany may assign the next resource Unit with a Metal Ore. Initially, Germany has two sources of Metal Ore, Sweden and Turkey. These sources are assumed available as long as both Nations are Neutral and in Sweden's case, access can also be affected by Norway (see Diplomacy for details). It is always possible to

substitute Oil for a Metal Ore, but a Metal Ore can only be used for each Oil Unit already assigned. Germany may also capture these sources (Stockholm or Ankara), or may capture a Russian IC that provides Metal Ores (see Russia below).

2.4.4.2 Italy – Italy also requires 1 Oil Unit from the Rome Supply Source to cover its economy, which is usually smaller than 5,000 PPs in any case. If for some reason it exceeds 5,000, Italy may use Albania as a source of additional Resources as an alternative to assigning another Oil Unit or one of Germany's Metal Ore sources.

2.4.4.3 Russia – Russia produces 1 Metal Ore Unit for each Oil Unit it produces in the Urals, plus 1 for each IC in any of Sverdlovsk, Chelyabinsk, Magnitogorsk, Ufa, and Orsk. Therefore, Russia will usually not have any issues with Metal Ore, but it also does require Oil Units as well, in the same manner that Germany does – 1 Oil Unit for each 5,000 PPs of its Economy or portion thereof, and for each Oil Unit they may also assign a Metal Ore.

2.4.4.4 France – France imports what it needs in Ores and such from the International Market (mostly the USA) as well, and may import 1 per Turn.

2.4.5 Army Fuel – A Nation must assign 1 Oil Unit for each Front that contains an Army Command. Note that the Front is defined by the forces within that Front at the start of the Turn, so attacks across a Front are permitted. However, unless you assign Oil to both Fronts, a Blitz would not be possible (this is not too likely to happen in any case). If you do not, then certain actions become unavailable or limited during the Turn as follows:

2.4.5.1 Strategic Movement – Strategic Movement is limited to 1 Army from any Major City to any other Major City, and 1 Division from any Minor City to any other Minor City. Nationalist and Communist China always suffer from this deficiency.

2.4.5.2 Tactical Movement – Tactical Movement is reduced by one level – Any "Mobile" results become "Reserve" and any "Reserve" movement becomes "Organizing," which in turn becomes prohibited. This also means that breakthroughs will not be possible.

2.4.5.3 Attack – Only one attack into an enemy Territory is permitted within the Front. Note that Airborne Units are affected, but will still be available for an Airdrop, dependent upon the allocation of an Oil Unit to the Air Force.

2.4.5.4 Logistics – During Logistics, forces within the Front cannot receive any Supplies. Note that they can still use the Re-Supply Order during the Orders Phase.

2.4.5.5 Naval Invasion – Naval Invasions, even if Oil is available for the Navy, are not permitted. This does not apply to SNLF, Commandos, or Marines, however.

2.4.5.6 Isolated Army Commands – If an Army Command does not have any route, either by land or via a friendly Port, to the Supply Center, then it will not have any Fuel regardless of the status of the rest of the Front and won't be able to attack (the one attack rule doesn't apply to isolated armies, only to a whole front that lacks oil. Note that this doesn't apply to say North Africa, because you have a Port available through which supplies and reinforcements (and Oil) are sent, but it would apply if say you had forces in Stalingrad, but the Russians controlled all the adjacent Territories (you would then be isolated). Air Transport can't be used to provide sufficient fuel (though you can send units or supplies that way). If for some reason the Isolated Command were within a source of Oil, then they would be considered supplied by that Oil instead, regardless of the Front. However, that would also mean the Oil Source would be isolated from any other use as well. In the Middle East, Iraqi Oil can be used only in Iraq, and Persian Oil only in Persia, should

they become Isolated. In the Far East, this would apply to Borneo and Java for Sarawak and Palembang respectively.

2.4.6 Aviation Fuel – A Nation must assign Oil for the operation of its Air Force. If it does not, then a lack of aviation fuel means that certain actions become unavailable or limited during the Turn as follows:

2.4.6.1 Staging and Movement – Any Air Units that move within the Front are restricted to a single "Stage" and this results in the Air Unit being assigned an "Organizing" status.

2.4.6.2 Naval Air Patrol – Naval Air Patrols are prohibited. However, you may defend any friendly fleets that are attacked within range. Naval Air Units may also defend their carrier task force.

2.4.6.3 Air Transport – Air Transport of units or supplies is possible only when ordered directly from one Territory to another friendly Territory with an Air Base. Staging and picking up units along the way is prohibited, as is transport into a Territory without an Air Base. In addition, such Transport is limited to the capacity of the Air Base, and the Air Transport Units are forced to re-base at the destination.

2.4.6.4 Air Support – Defensive Air Support is permitted, but offensive use for Air to support any attacks is prohibited.

2.4.6.5 Strategic Bombing – Strategic Bombing, including attacks on Naval Units in port, is prohibited. Interception of such attacks is allowed, however.

2.4.6.6 Airborne Attack – No Airborne attacks may be made, either for defense or offense.

2.4.7 Naval Fuel Oil – Naval Fuel Oil must be assigned to a Navy in order to be able to freely operate, and this will depend upon the Port they are based in and what Nation it is (see Supply Centers for details on each). However, if no Naval Fuel Oil is assigned, it will affect Naval activity as follows:

2.4.7.1 Naval Patrol & Interception – Naval Patrols and Interception of any Naval activities (by Naval Units) is prohibited, and this includes Interception from a Port.

2.4.7.2 Naval Invasion– Naval Invasions are prohibited.

2.4.7.3 Naval Escort – Naval Escort is permitted, but no staging is permitted and the total distance of the mission cannot exceed the Endurance Range of the Naval Units involved. In addition, it is a 1-way trip and the Naval Units are automatically based at the Port of debarkation.

2.4.7.4 Base Changes – A deployment to a new base is permitted within Endurance Range only, but a "Change Base" order for a short move to another base is not affected.

2.5 Supply Centers – A Supply Center is the city from which Oil is allocated for the indicated uses above. Each Faction has a limited number of Supply Centers that can be used to provide Oil for various functions. In addition, Oil may be stored in Supply Centers up to a certain maximum, and is depleted from the supply center as it is used.

2.5.1 European Axis – Berlin and Rome are the Supply Centers for the European Axis, and combined they can hold up to 10 Oil Units total. At the start of the campaign, The Axis has 8 Oil Units in Berlin and 2 Oil Units in Rome.

2.5.1.1 Berlin – Berlin may provide Oil for the German Economy, the Axis West and East Fronts, the Axis Atlantic Fleet, and the Luftwaffe as well was the Regia Aeronautica. The Atlantic Fleet consists of all Atlantic Ports as well as the Baltic Sea and any Black Sea Ports connected through the East Front to Berlin.

2.5.1.2 Rome – Rome can provide Oil for the Italian Economy, the Axis Mediterranean Front, and the Axis Mediterranean Fleet. The Mediterranean Fleet includes all Mediterranean Ports as well as any Black Sea Ports connected through the Mediterranean Front to Rome.

2.5.2 Japan – Japan has Tokyo as well as its colony of Manchuria (Mukden and Harbin) and the Island of Formosa (Taipei). Japan may only store a maximum of 10 Oil in its Reserves, and begins the game with 6 in Tokyo, 2 in Mukden, 1 in Harbin, and 1 in Taipei.

2.5.2.1 Tokyo – Oil from Tokyo may be used for the Pacific Front, the Air Force, and The Pacific Ocean for the IJN.

2.5.2.2 Mukden and Harbin – Oil from Mukden or Harbin may be used for the Asian as well as for the Air Force. Oil shipped to Mukden or Harbin must be shipped to a Port on the Asian Front (which also has land access to the Supply Source as well).

2.5.2.3 Taipei & Singapore – Oil from Taipei represents reserves used for Southeast Asia. This applies to the Southeast Asian Front and to Naval Fuel Oil for the Indian Ocean and those Seas within the Southeast Asian Front (see the Far East Theatre Map). Taipei may later be replaced as the main base for Japanese activity in Southeast Asia by the capture of Singapore. Japan can make this change during any Logistics Phase, but must Transport any remaining Oil in the Taipei reserve the following Turn (and visa versa should it choose to later abandon Singapore).

2.5.3 Russia – Russia's only Supply Center is the Urals, which can store a maximum of 10 Oil in reserve. Russia begins the campaign with 3 Oil Units in its reserve.

2.5.3.1 Urals – Oil from the Urals can be used for any activity the Russians need. Oil can be assigned to the Russian Economy, the Eastern Front, the Asian Front, the Russian Navy (all locations), and the Russian Air Force (all locations). Russia does also have to expend Oil if it wishes to support the Western or Mediterranean Front, but that is not likely until very late in the war.

2.5.4 The Western Allies – The Western Allies have the lion's share of Oil in the world, which is good since they cover so much territory they need it. The Western Allies include Britain, France and the USA, but France will usually surrender before 1941 and the USA won't enter the War until later. The French, while they are in play, may store up to 10 Oil in Paris and begin the game with 3 Oil in reserve. The British may store up to 10 Oil total in their various Supply Centers throughout the world (London, South Africa, India, and Australia), and the USA is a special case. Oil reserves available in each Theatre are determined by the level of Mobilization in each Theatre, to a maximum of 10 in each. Therefore, the USA Oil reserve begins at 0 in each Theatre, keeping in mind that the Americas (see below) is always an unlimited Supply Source. In Europe, this Oil can be stored in Paris, after it has been liberated by the Allies. Prior to that, Oil must be shipped and stored within British Supply Centers. In the Far East, Hawaii and Manila serve the same purpose.

2.5.3.1 London – Oil from London can be used for the Western Front, including Army, Air Force and Navy, each of which must be supplied with 1 Oil Unit. However, this covers all of the Allies within the Western Front. Gibraltar can be considered as either the West Front or the Mediterranean Front (and it

doesn't matter if Oil for the Navy is from one Front and for the Air Force another). Also note that you may invade from the Western Front into the Mediterranean (for example, an invasion of Spain or Morocco). If you wish to continue to link your forces to the Western Front (i.e. you have no access to a Mediterranean Port), then you must create a Bridgehead. This allows the Western Allies to attach the Army Command they have created to remain a part of the Western Front. Using a Bridgehead requires the Allies to expend an additional Oil Unit in the Logistics Phase (from London) for use in the following Turn. This must be expended each Turn to maintain the Bridgehead. This is useful for invasions of areas such as Norway (to advance further into Scandinavia), Morocco, Portugal, and even in the event of a loss of Suez to attack via Gibraltar.

2.5.3.2 South Africa – Oil from South Africa may be used on the Mediterranean Front for both the Army, Air Force, and Navy, and includes any action that takes place in the various African Territories. There must be an available route through Suez, or alternately from Basra to Mosul to either Haifa or Beirut (using the Iraqi Oil Pipelines). Usually, Oil is shipped from the Middle East to SAF, then supplied from there as needed. In actuality, much of it could be coming directly from the Middle East, but this covers either case and for game purposes fits the system better.

2.5.3.3 India – Oil from India may be used for the Mediterranean or Southeastern Asia Front – Army, Air Force, and Navy. If used for the Mediterranean Front, access is also required as indicated for South Africa.

2.5.3.4 Australia – Oil from Australia may be used for the Southeastern Asia or Pacific Front – Army, Air Force, and Navy.

2.5.3.5 Paris – Oil from Paris may be used for the French Economy and the French Navy prior to surrender, as well as either the Western or Mediterranean Front for both the Army and the Air Force (of Western Allied Forces). After a French surrender, it may also serve as a Supply Source for the Western Allied Navy in the Mediterranean or the Western Front. In addition, once the USA enters the War, the liberation of Paris will expand the overall Supply of the Allies by allowing for more Oil to be stored in the European Theatre.

2.5.3.6 Hawaii – Oil from Hawaii can be used by the Allies for Army, Air Force and Naval activity on the Pacific Front. This is the only Supply Center that can be attacked by SW bombing, and acts as if it is equal to one Refinery. If damaged, it is not available as a Supply Center until such time as it is repaired, and any Oil stored there is eliminated.

2.5.3.7 Manila – Manila is a Supply Center for the Allies only, and may be used for either the Southeastern Asia or Asia Fronts, and for either Air, Naval or Army forces. Manila will need to be liberated in order to adequately invade Japan (though a Bridgehead can be established otherwise, so it is not guaranteed to be necessary).

2.5.3.8 The Americas – Oil within any of North, Central or South America is readily available and assumed, so no off-map supplies are necessary and army, air and naval forces of the Allies may freely operate from any of these territories. If the Western Allies have attacked a neutral Portugal or Spain, however, they will no longer have access to South American Oil.