

Advanced Economy Guide Addendum – Labor

Production of Labor is very straightforward. But first, let's review what the Labor slider actually does. The slider, in effect, redirects provincial labor from producing some tradable good in that province, or helping to speed developments, and instead moves the resulting amount of Labor into the national Labor pool. This national pool is then used to build units and developments anywhere in the country. This is important to understand because the manual uses the term "Labor" to mean several different things.

Take a look at the screenshot below. Notice that the Labor slider has been pushed all the way to the right. This results in 9 Labor units from this Ile de France being added to the National Labor pool.



The value is very easy to calculate. You need four values to calculate Labor Pool allocations:

1. The current population for the province. ("MaxPop" or "MenProduction" in *COG2Provinces.txt* for newly started games. The values for the two are the same.)
2. The current number of Factories. ("Industrial" in *COG2Start.txt* for newly started games.)
3. The slider multiplier, or "Slider" in the formula. This increases or decreases the production based on the slider setting as dictated by the base amount for the resource. **See the introduction to the Addendum to see how this value is determined.**
4. Current National Morale level, or NM. (The Morale value from *COG2Players.txt*, less 1,000, for newly started games, otherwise use the amount from the Economic Advisor screen.)

The **formula** is: $\left(1 + \frac{\text{Factories}}{2}\right) \times \frac{\text{Current Pop}}{10} \times \left(1 + \frac{NM}{10000}\right) \times \text{Slider}$

For Il de France, 75% Labor slider, this is $\left(1 + \frac{4}{2}\right) \times \frac{7}{10} \times \left(1 + \frac{500}{10000}\right) \times 4.25$

or 9.37.

Then, round the total down if you want to match the Development Advisor quantity. Keep in mind that you would actually have a 37% chance of receiving 10. Fractional amounts are retained until the last step of the calculations to allow for the probability test to be applied that I mention the Advanced Economy Guide. Be sure to estimate the effects of waste if you want a more accurate number.

Finally, you will always get at least 1 Labor, even if the formula produces less.

Notes:

There are other adjustments to the production that are not detailed here. For example, see the Manual for the effects of waste, the feudal level, the presence of enemy units, unrest, and weather. There may also be event related adjustments.

Playing hints:

Always develop factories in those provinces that have a large population if you wish to build units or developments. Each Factory increases your capacity to produce Labor by a significant amount, especially for larger provinces.

If you can increase your population through food production, it can greatly help Labor production as well. But, population growth is allocated to the provinces that are in the most need. These may not be the provinces with a current large population potential. So, you may have to wait many months to see the population grow in those provinces that have Labor being produced. One way to help increase population is to build roads. That strategy is particularly effective when your population is already almost at the maximum.

Formula Accuracy

Notice on the spreadsheet screenshot below that the True Error for all countries is 0, except Russia. This means that the formula works, but that my method of applying waste does not work precisely. I have taken into account the adjustments from Courts and Culture, but it still is not a perfect match. But, in this case an error of 4 is actually very small, and is actually 18% more than what the formula predicts. Since Russia should get a Feudal Level boost of 2.5 labor for each level (they begin at level 2), they should get 5 extra labor. That's very close, indeed.

From this analysis, it can be concluded that the **pre-waste/pre-feudal level** formula I present above is an excellent estimator of Labor.

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