

How expensive is for Germany to impose an **immigration visa** on unskilled workers and an **income subsidy** for foreign skilled workers?

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Scenario narrative

- Some countries have policies aiming at attracting skilled labor (e.g. The Netherlands, income tax exemption of 30%)
- At the same time, immigration policies have become harder for unskilled immigrants (e.g. Coyotes in the Mexican border)
- As a learning exercise we are simulating the combined effects of a 20% income subsidy on skilled workers migrating to Germany and an additional 20% income tax to unskilled workers (= equivalent to an hypothetical immigration visa)

Model adaptation

- Basic version: GMig2
- Changes to the model:
 - Need to include bilateral migration between all regions (by Terry)
 - Exclusion of taxes/subsidies for Germans (to avoid “exodus” of national unskilled workers)
- Closure:
 - Migration endogenous (alternative to shocking the exogenous amount of workers in a region)
`swap c_MIGNOSP(LAB_COMM,LEXP_REG,LIMP_REG) = SLACKENDMIG(LAB_COMM,LEXP_REG,LIMP_REG) ;`
 - Migration from one country to itself re-exogenized (to avoid people migrating to its own country... technically possible)
`e.g. swap c_MIGNOSP(LAB_COMM,"USA","USA") = SLACKENDMIG(LAB_COMM,"USA","USA") ;`
- Shocks:
 - 20% income tax on unskilled labor migrating from all regions to Germany
 - 20% income subsidy on skilled labor migrating from all regions to Germany

Migration flows (# people)

| c_LFNOSP | | Germany | REU | Reurope | MidEastAfr | Rest | Total |
|-------------|---------|---------|--------|---------|------------|--------|-------|
| Germany | unsklab | 2787 | -844 | -198 | -343 | -1402 | 0 |
| | sklab | -1860 | 306 | 114 | 161 | 1279 | 0 |
| REU | unsklab | -58843 | 58594 | -104 | 3 | 350 | 0 |
| | sklab | 15946 | -15848 | 24 | -3 | -119 | 0 |
| Reurope | unsklab | -19562 | 111 | 19242 | 24 | 185 | 0 |
| | sklab | 5644 | -21 | -5536 | -9 | -78 | 0 |
| MidEastNAfr | unsklab | -76790 | -41 | -37 | 76762 | 106 | 0 |
| | sklab | 13697 | 14 | 9 | -13673 | -47 | 0 |
| Rest | unsklab | -100847 | -377 | -129 | -448 | 101801 | 0 |
| | sklab | 58433 | 70 | 57 | 127 | -58687 | 0 |
| Total | unsklab | -253255 | 57443 | 18774 | 75998 | 101040 | 0 |
| | sklab | 91860 | -15479 | -5332 | -13397 | -57652 | 0 |

Control column:
should be zero
(# emigrants = #
immigrants)



- 250 thousand unskilled labor forces leaving Germany (visa effect)
- 92 thousand skilled labor forces entering Germany (subsidy effect)



Labor Shares (Germany):

| | | |
|---------------------------|-------------|------------|
| Population | 81.9 | |
| Workers | 36.1 | 44% |
| <i>Unskilled labor</i> | 22.5 | 62% |
| <i>Skilled labour</i> | 13.6 | 38% |
| Migrants | 4.4 | 12% |
| <i>Unskilled migrants</i> | 3.1 | 70% |
| <i>Skilled migrants</i> | 1.3 | 30% |

Welfare effects

| | Total EV | Contribution unskilled | Contribution skilled |
|-------------|----------|------------------------|----------------------|
| Germany | -2223.89 | -3132.57 | 935.85 |
| REU | 186.33 | 142.21 | 38.2 |
| Reurope | 75.91 | 129.76 | -55.48 |
| EastEurope | -123.08 | -184.14 | 60.27 |
| MidEastNAfr | -32.71 | -170.32 | 136.18 |
| Rest | -10.19 | -4353.43 | 1124.1 |

Welfare (=EV) decreases for Germany.



| | | |
|----------------------|----------|---|
| Allocative effects | 1073.11 | Production decreasing, heterogeneous (skilled vs. unskilled labour intensive sectors) |
| Endowment effects | 2604.303 | Appreciation of endowments (except unskilled labor), due to population decrease |
| Change in population | -6745.58 | Scaling effect (population change * EY) |
| Terms of Trade | 152.02 | Imports and exports decrease (imports slightly more) |
| Remittances | 707.549 | Less remittances sent abroad (proportional to the change in population) |

EV as a wrong indicator (population change dominating the effect, cannot be accounted only to Germany)

- An alternative: to look at real income by non-movers



| c_RYnmvsPPP | tot | unsklab | sklab |
|-------------|---------|---------|----------|
| Germany | 551.87 | 2943.73 | -2349.44 |
| REU | -84.34 | -463.98 | 374.63 |
| Reurope | -22.15 | -47.91 | 24.85 |
| EastEurope | -368.45 | -637.73 | 267.84 |
| MidEastNAfr | -299.04 | -708.9 | 407.64 |

Different picture:

- Positive effect in Germany
- Negative in countries exporting labor into Germany
- Different depending on sklab and unsklab

Effects on Trade

- Terms of trade improve:

| Change in terms of trade for Germany | |
|--------------------------------------|---------|
| Change in import price index | -0.004% |
| Change in export price index | 0.021% |
| Change in terms of trade | 0.025% |

- Imports and exports decline:

| Change in trade balance (million USD): | |
|--|--------|
| Imports | -1,181 |
| Exports | -679 |
| Trade Balance | 502 |

- Imports of all commodities decline
- Exports are more complicated

Imports to Germany

- Output for all industries declines
 - From -0.002% to -0.4%
- Due primarily to population reduction
 - German economy is smaller
- This “population effect” dominates terms of trade effects. For example:

| Change in imports of electronics from Japan: | |
|--|--------|
| Substitution effect | -0.06% |
| Overall expansion effect | -0.23% |
| Total | -0.29% |

Exports from Germany

- For exports, terms of trade effects dominate. For example:

| Change in exports of electronics to Japan: | |
|--|--------|
| Substitution effect | 0.20% |
| Expansion effect | -0.02% |
| Total | 0.18% |

- Changes in terms of trade depend on changes to factor prices:

| Change in returns to factors of production: | |
|---|--------|
| Unskilled labor | 0.54% |
| Skilled labor | -0.54% |
| Land | -0.98% |
| Natural Resources | -0.34% |
| Capital | -0.12% |

Exports from Germany

- Industries that export more use cheap factors:

| Biggest increases in exports: | | Share in cost structure: | | |
|-------------------------------|-------------------|--------------------------|-----------------|---------|
| Industry | Change in exports | Skilled Labor | Unskilled Labor | Capital |
| Business Services | 0.45% | 0.006 | 0.005 | 0.764 |
| Communications | 0.36% | 0.183 | 0.159 | 0.481 |
| Insurance | 0.34% | 0.125 | 0.109 | 0.298 |
| Financial | 0.30% | 0.128 | 0.111 | 0.121 |

- Industries that export less use expensive factors:

| Biggest decrease in exports | | Share in cost structure: | | |
|-----------------------------|-------------------|--------------------------|-----------------|---------|
| Industry | Change in exports | Skilled Labor | Unskilled Labor | Capital |
| Textiles and Apparel | -0.44% | 0.058 | 0.236 | 0.101 |
| Metals | -0.29% | 0.061 | 0.18 | 0.063 |
| Wood and paper | -0.24% | 0.078 | 0.178 | 0.148 |
| Manufacturing | -0.23% | 0.145 | 0.264 | 0.05 |

Change in Remittances

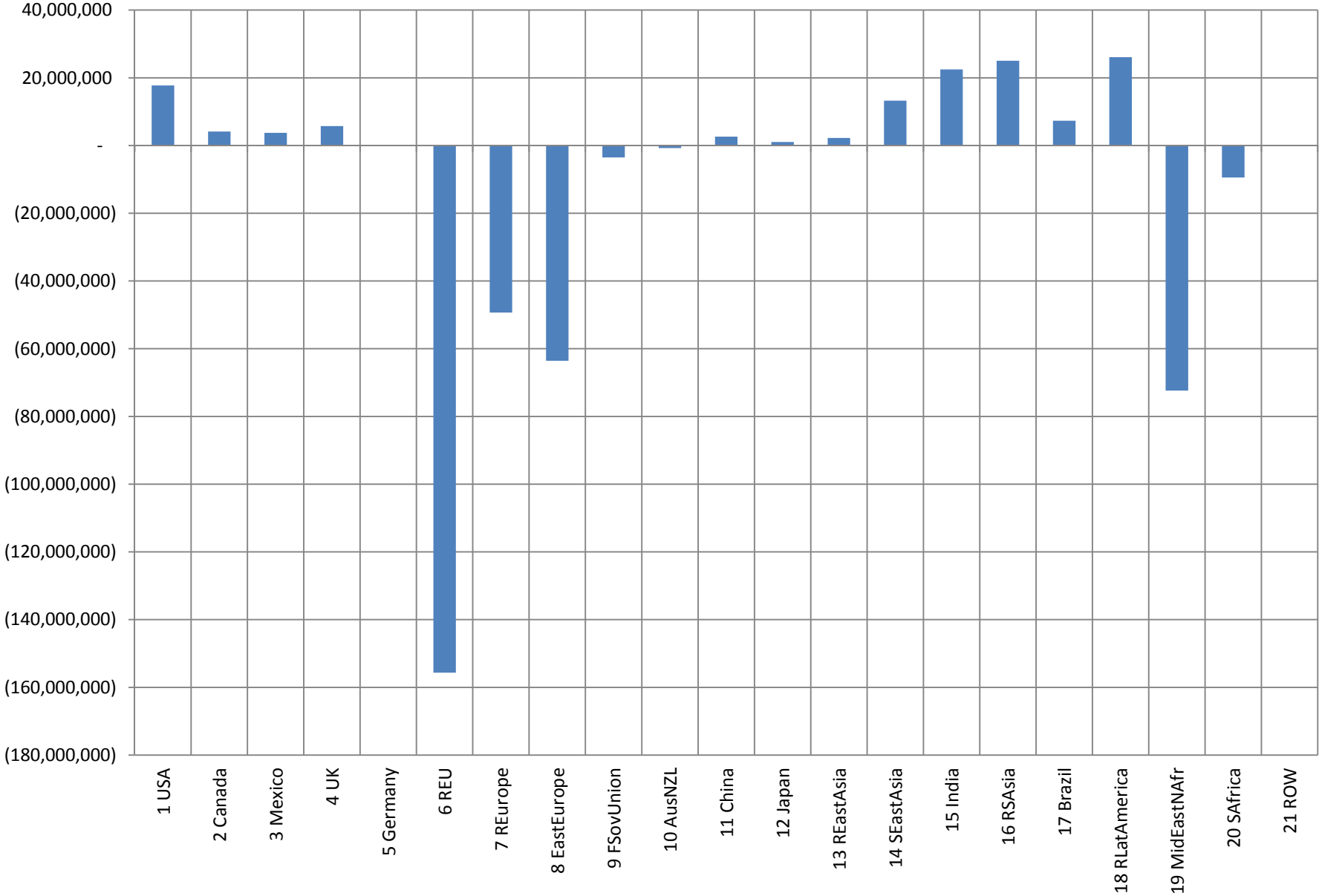
- Changes in remittances are a function of:
 - supply price of labor of skill level i from region r in s
 - Effective labor of skill i , from r and located in s
 - A shift variable equal to zero

➤ $\text{remitsl}(i,r,s) = \text{psws}(i,r,s) + \text{qos}(i,r,s) + \text{shiftrem}(i,r,s)$
- Largest effect is fall in remittances to:
 - Rest of EU (% of migrants that are unskilled = 68%); Middle East/North Africa (69%); Rest of Europe (72%); Eastern Europe (73%)
- In contrast, remittances rise in:
 - India (50%); Rest of South Asia (50%); Brazil (38%); USA(35%)

Decomposing Remittance

- $\text{Remits}_i = \text{psws}_i + \text{qos}_i$
- Remits change due to our shock which discourages unskilled migration to Germany and encourages skilled migration.
- Regions that have a large proportion of migrants with high skill have increased remittances.
- Regions that have a large proportion of migrants with low skill have decreased remittances.
 - Both psws and qos affect remittances in the same direction

\$ Change in Remittances of Migrants in Germany



Tracking Remittance Changes From Germany

- Recall remittance is function of wage and effective labor
 - In general the wage of unskilled migrants in Germany falls by 19.5% and the wage of skilled migrants rises by 19.3%. (why not -20% and +20%??)
 - Some of the shock is offset by changes to wage of labor (regardless of source) in Germany.
 - More skilled labor puts downward pressure of the wage of skilled labor
 - Less unskilled labor puts upward pressure of the wage of unskilled labor
 - The amount of effective unskilled labor falls by 8.3% while the amount of effective skilled labor rises by 7.3%
 - These are consistent with elasticity of supply of migrants wrt wages ($ESUBMIG = 0.4$)