

# SOK-2008-2022-oppgave5

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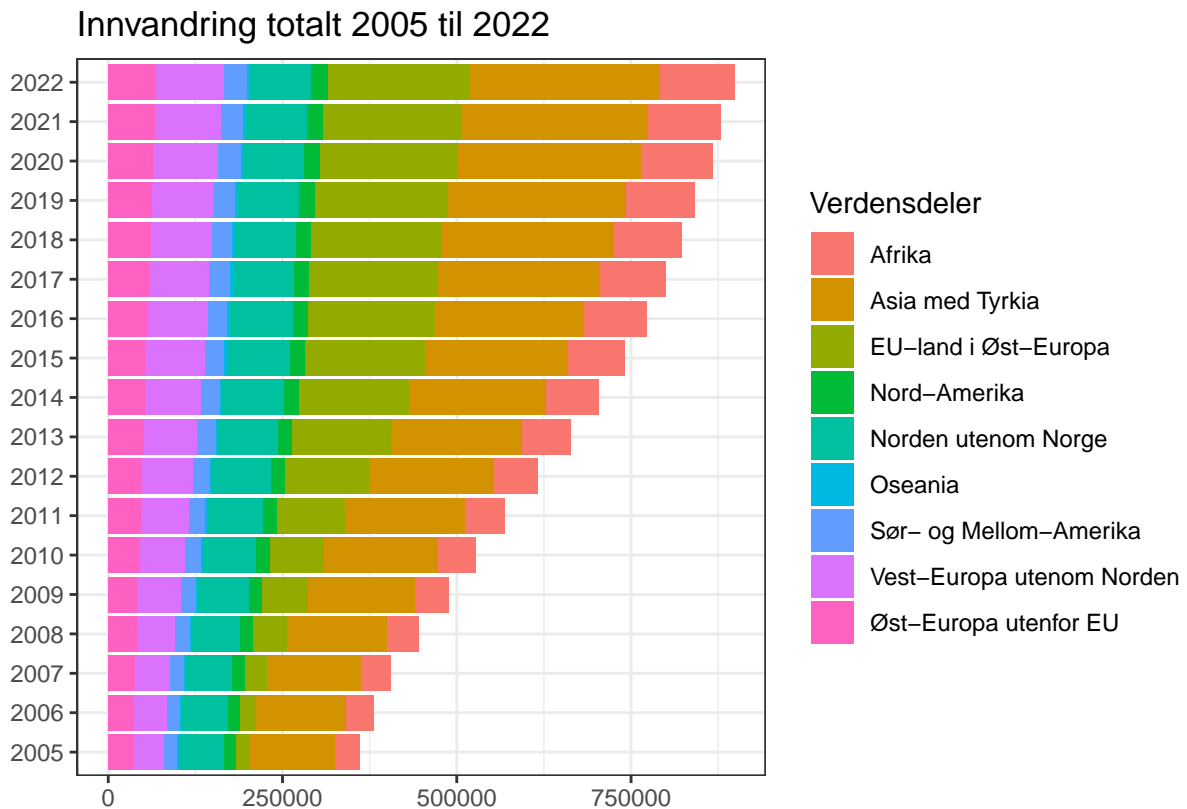
## Utfordring 5.1

1.

```
innvandrere <-  
  ApiData("https://data.ssb.no/api/v0/no/table/05185/",  
    Landbakgrunn=list('agg:Verdensdel2', c("b11", "b12", "b13", "b14",  
                                             "b2", "b3", "b4", "b5", "b6")),  
    Tid=list('item', c("2005", "2006", "2007", "2008", "2009", "2010",  
                       "2011", "2012", "2013", "2014", "2015", "2016",  
                       "2017", "2018", "2019", "2020", "2021", "2022")),  
    Kjonn=FALSE,  
    ContentsCode=TRUE)  
  
innvandrere <- as.tibble(innvandrere[[1]])  
  
## Warning: 'as.tibble()' was deprecated in tibble 2.0.0.  
## i Please use 'as_tibble()' instead.  
## i The signature and semantics have changed, see '?as_tibble'.  
  
innvandrere[-2] %>%  
  pivot_wider(names_from = år, values_from = value)  
  
## # A tibble: 9 x 19  
##   landba~1 '2005' '2006' '2007' '2008' '2009' '2010' '2011' '2012' '2013' '2014'  
##   <chr>      <int> <int> <int> <int> <int> <int> <int> <int> <int> <int>  
## 1 Norden ~ 66516 67139 68214 70368 73325 76974 81046 84864 86867 88791  
## 2 Vest-Eu~ 45781 47734 50727 56027 62002 65990 69774 73838 77935 81213  
## 3 EU-land~ 19272 23298 32304 49117 66360 79064 97522 120649 141653 158745  
## 4 Øst-Eur~ 34984 37106 38520 40918 42985 44615 46145 47987 50267 52305  
## 5 Afrika  36446 39307 42100 45697 49104 53582 58503 63205 70579 77348  
## 6 Asia me~ 121855 128537 134657 142896 152636 162516 170754 178999 187931 196054  
## 7 Nord-Am~ 16859 17001 17305 17711 18356 18846 19177 19427 20000 20249  
## 8 Sør- og~ 17795 18575 19438 20549 21737 22808 23653 24707 25908 27011  
## 9 Oseania 1636 1671 1843 2076 2248 2404 2522 2610 2730 2795  
## # ... with 8 more variables: '2015' <int>, '2016' <int>, '2017' <int>,  
## #   '2018' <int>, '2019' <int>, '2020' <int>, '2021' <int>, '2022' <int>, and  
## #   abbreviated variable name 1: landbakgrunn
```

```
innvandrere <- innvandrere %>%
  arrange(år)

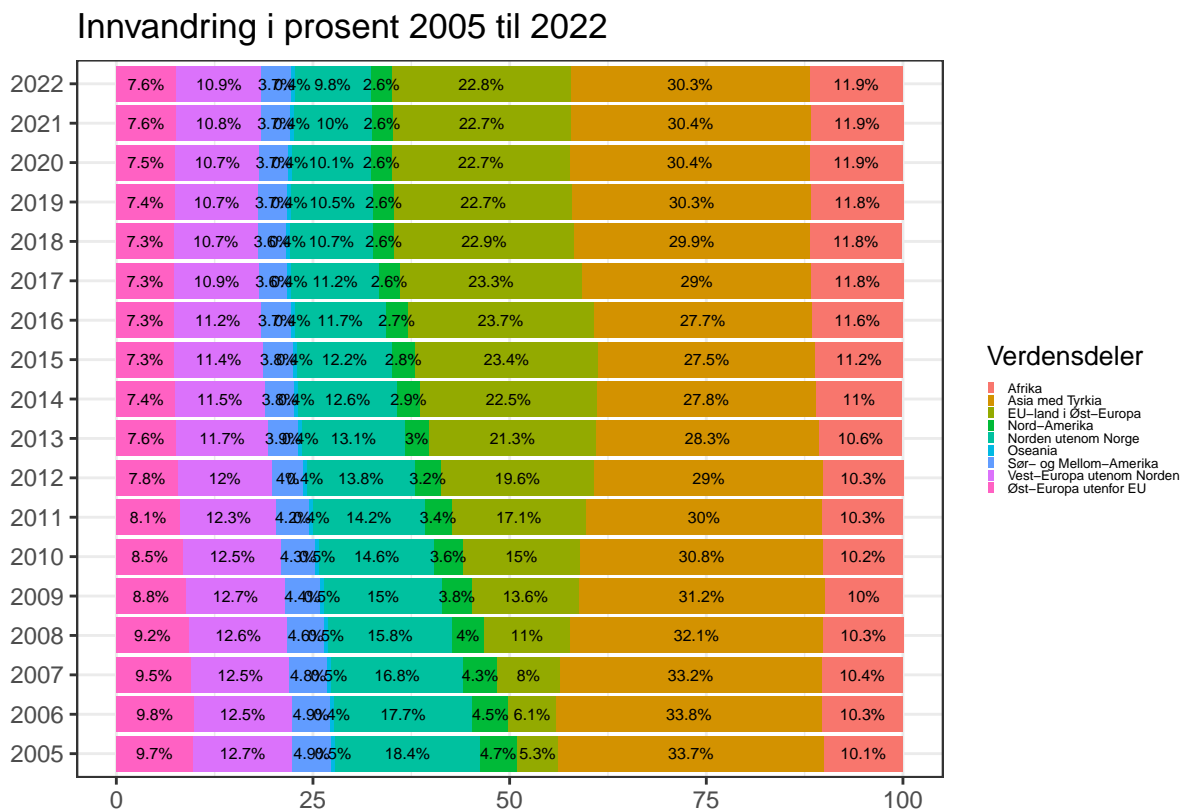
ggplot(innvandrere, aes(x = value, y = år, fill = landbakgrunn)) +
  geom_col() +
  labs(x = "",
       y = "",
       title = "Innvandring totalt 2005 til 2022") +
  scale_fill_discrete(name = "Verdensdeler")
```



```
innvandrere <- innvandrere %>%
  group_by(år) %>%
  mutate(sum = sum(value),
         andel = value/sum,
         andel = round(andel*100, digits = 1)) %>%
  select(-sum)

ggplot(innvandrere, aes(x = andel, y = år, fill = landbakgrunn)) +
  geom_col() +
  geom_text(aes(label = paste0(andel, '%'),
                  position = position_stack(vjust = 0.5), color = "black", size = 2)) +
  labs(x = "",
       y = "",
       title = "Innvandring i prosent 2005 til 2022") +
  scale_fill_discrete(name = "Verdensdeler") +
```

```
theme(legend.key.height= unit(0.1, 'cm'),
      legend.key.width= unit(0.1, 'cm'),
      legend.text = element_text(size=5),
      legend.title = element_text(size=10))
```



2.

```
sektorer <-
  ApiData("https://data.ssb.no/api/v0/no/table/13215/",
    Kjonn=list('item', c("0")),
    Alder=list('item', c("15-74")),
    InnvandrKat=list('item', c("B")),
    Landbakgrunn=list('item', c("015a")),
    NACE2007=list('agg:NACE260InnvGrupp2',
      c("SNI-00-99", "SNI-01-03", "SNI-05-09", "SNI-10-33",
        "SNI-35-39", "SNI-41-43", "SNI-45-47", "SNI-49-53",
        "SNI-49.3", "SNI-55", "SNI-56", "SNI-58-63",
        "SNI-64-66", "SNI-68-75", "SNI-77-82", "SNI-78.2",
        "SNI-81.2", "SNI-84", "SNI-85", "SNI-86-88", "SNI-90-99",
        "SNI-00")),
    Tid=list('item', c("2021")),
    ContentsCode=TRUE)
```

```
sektorer <- as.tibble(sektorer[[1]])

sektorer <- sektorer %>%
  select(`næring` (SN2007)`, value) %>%
  arrange(desc(value))

sektorer$`næring` (SN2007)` <- gsub(".*\\.\"", "", sektorer$`næring` (SN2007)`)

sektorer[-1,] %>%
  ggplot(aes(x = `næring` (SN2007)`, y = value, fill = `næring` (SN2007)`)) +
  geom_col(show.legend = FALSE) +
  labs(x = "",
       y = "",
       title = "Næringslivssektor blant innvandrere fra EU-land i Øst-Europa") +
  theme(text = element_text(size=7),
        axis.text.x = element_text(angle=90, hjust=1))
```

