# R Notebook

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

Import dataset, named as "anes_dat." Then check the dimension.

Some basic summaries:

```
barplot(table(anes_dat$VCF0004),
        las=2,
        main="Number of Respondents Over the Years")
```
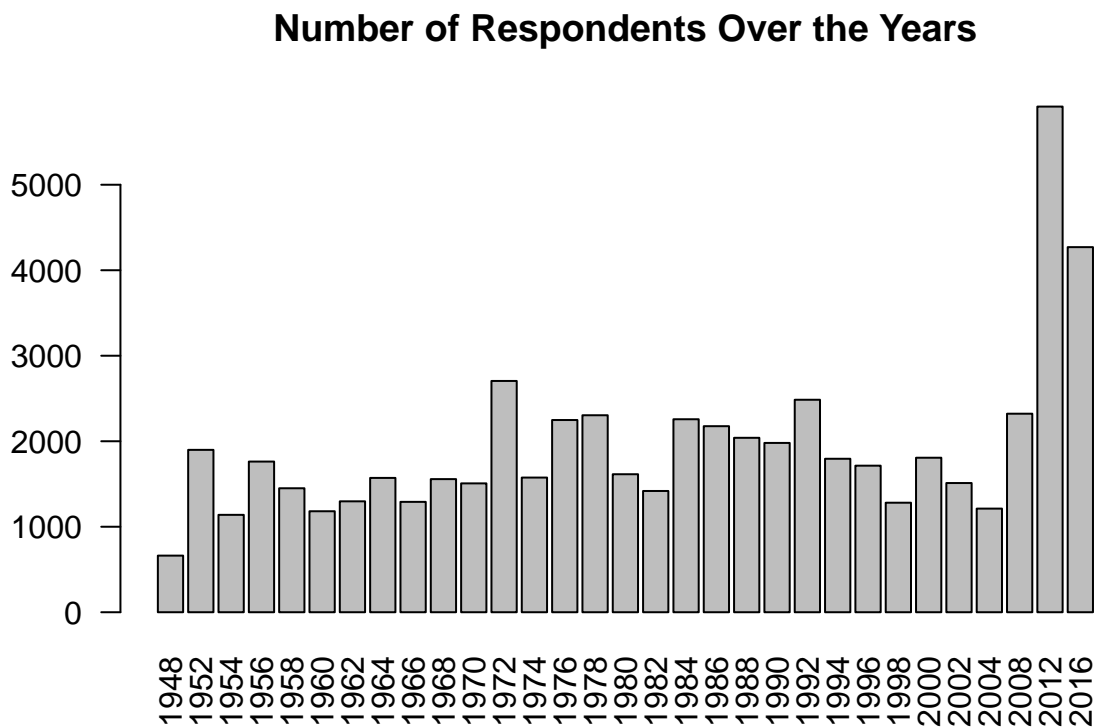

From the graph, we see that there are much more respondents in 2012 and 2016 comparing with the respondents in previous years.

Geting all the data that we want:

```
anes_use=anes_dat%>%
  mutate(
    year=as_factor(VCF0004),
```

```r
    econ_past=as_factor(VCF0870),
    econ_next=as_factor(VCF0872),
    econ_gov_market=as_factor(VCF9132),
    econ_party=as_factor(VCF9205),
    econ_stock=as_factor(VCF9224),
    econ_home=as_factor(VCF0146),
    job_working=as_factor(VCF0150),
    job_unemp_past=as_factor(VCF9226),
    job_unemp_next=as_factor(VCF9229),
    job_foreign=as_factor(VCF9231),
    secu_tort=as_factor(VCF9233),
    secu_fed_spend=as_factor(VCF9049),
    immig_job=as_factor(VCF9223),
    immig_muslim=as_factor(VCF9267),
    immig_illeg=as_factor(VCF0233),
    immig_incre=as_factor(VCF0879),
    insu_status=as_factor(VCF9281),
    insu_curr=as_factor(VCF9218),
    insu_type=as_factor(VCF0806),
    insu_demo=as_factor(VCF0508),
    insu_rep=as_factor(VCF0509),
    weal_wastetax=as_factor(VCF0606),
    weal_gap=as_factor(VCF9228),
    weal_rich=as_factor(VCF9268),
    intera_army=as_factor(VCF0844),
    lead_demo=as_factor(VCF9209),
    lead_rep=as_factor(VCF9213),
    court_perf=as_factor(VCF0655),
    envir_regul=as_factor(VCF0842),
    envir_party=as_factor(VCF9008),
    envir_fedspend=as_factor(VCF9047),
    trust_first=as_factor(VCF0632),
    trust_second=as_factor(VCF0633),
    trust_third=as_factor(VCF0634),
    satisf=as_factor(VCF9245),
    like_demo=as_factor(VCF9207),
    like_rep=as_factor(VCF9208),
    demo_rep=as_factor(VCF0413),
    prefer=as_factor(VCF9022),
    vote=as_factor(VCF0706),
    race=as_factor(VCF0105a),
    gender=as_factor(VCF0104),
    income=as_factor(VCF0114)
  )%>%
  filter(year %in% as.character(seq(1952, 2016, 4)))

anes_use = anes_use%>%select(year,
                           econ_past, econ_next, econ_gov_market, econ_party,econ_stock,econ_home,
                           job_working,job_unemp_past,job_unemp_next,job_foreign,
                           secu_tort,secu_fed_spend,
                           immig_job,immig_muslim,immig_illeg,immig_incre,
                           insu_status,insu_curr,insu_type,insu_demo,insu_rep,
                           weal_wastetax,weal_gap,
```

```
                              intera_army,
                              lead_demo,lead_rep,
                              court_perf,
                              trust_first, trust_second, trust_third,
                              envir_regul,envir_party,envir_fedspend,
                              like_demo, like_rep,
                              prefer,
                              demo_rep,
                              satisf,
                              vote, race, gender,income)
save(anes_use, file="../../output/data_use.RData")
```

Getting 2016 data only:

```
load(file="../../output/data_use.RData")
dat_2016 <- anes_dat %>% filter(VCF0004 == 2016)

dat_2016 =dat_2016%>%
  mutate(
    year=as_factor(VCF0004),
    econ_past=as_factor(VCF0870),
    econ_next=as_factor(VCF0872),
    econ_gov_market=as_factor(VCF9132),
    econ_party=as_factor(VCF9205),
    econ_stock=as_factor(VCF9224),
    econ_home=as_factor(VCF0146),
    job_working=as_factor(VCF0150),
    job_unemp_past=as_factor(VCF9226),
    job_unemp_next=as_factor(VCF9229),
    job_foreign=as_factor(VCF9231),
    secu_tort=as_factor(VCF9233),
    secu_fed_spend=as_factor(VCF9049),
    immig_job=as_factor(VCF9223),
    immig_muslim=as_factor(VCF9267),
    immig_illeg=as_factor(VCF0233),
    immig_incre=as_factor(VCF0879),
    insu_status=as_factor(VCF9281),
    insu_curr=as_factor(VCF9218),
    insu_type=as_factor(VCF0806),
    insu_demo=as_factor(VCF0508),
    insu_rep=as_factor(VCF0509),
    weal_wastetax=as_factor(VCF0606),
    weal_gap=as_factor(VCF9228),
    weal_rich=as_factor(VCF9268),
    intera_army=as_factor(VCF0844),
    lead_demo=as_factor(VCF9209),
    lead_rep=as_factor(VCF9213),
    court_perf=as_factor(VCF0655),
    envir_regul=as_factor(VCF0842),
    envir_party=as_factor(VCF9008),
    envir_fedspend=as_factor(VCF9047),
    trust_first=as_factor(VCF0632),
    trust_second=as_factor(VCF0633),
    trust_third=as_factor(VCF0634),
```

```r
    like_demo=as_factor(VCF9207),
    like_rep=as_factor(VCF9208),
    demo_rep=as_factor(VCF0413),
    prefer=as_factor(VCF9022),
    satisf=as_factor(VCF9245),
    vote=as_factor(VCF0706),
    race=as_factor(VCF0105a),
    gender=as_factor(VCF0104),
    income=as_factor(VCF0114)
  )%>%
  filter(year %in% as.character(seq(1952, 2016, 4)))
dat_2016 = dat_2016 %>%select(year,
                       econ_past, econ_next, econ_gov_market, econ_party,econ_stock,econ_home,
                       job_working,job_unemp_past,job_unemp_next,job_foreign,
                       secu_tort,secu_fed_spend,
                       immig_job,immig_muslim,immig_illeg,immig_incre,
                       insu_status,insu_curr,insu_type,insu_demo,insu_rep,
                       weal_wastetax,weal_gap,
                       intera_army,
                       lead_demo,lead_rep,
                       court_perf,
                       trust_first, trust_second, trust_third,
                       envir_regul,envir_party,envir_fedspend,
                       like_demo, like_rep,
                       prefer,
                       demo_rep,
                       satisf,
                       vote, race, gender,income)
save(dat_2016, file="../../output/dat_2016.RData")
```
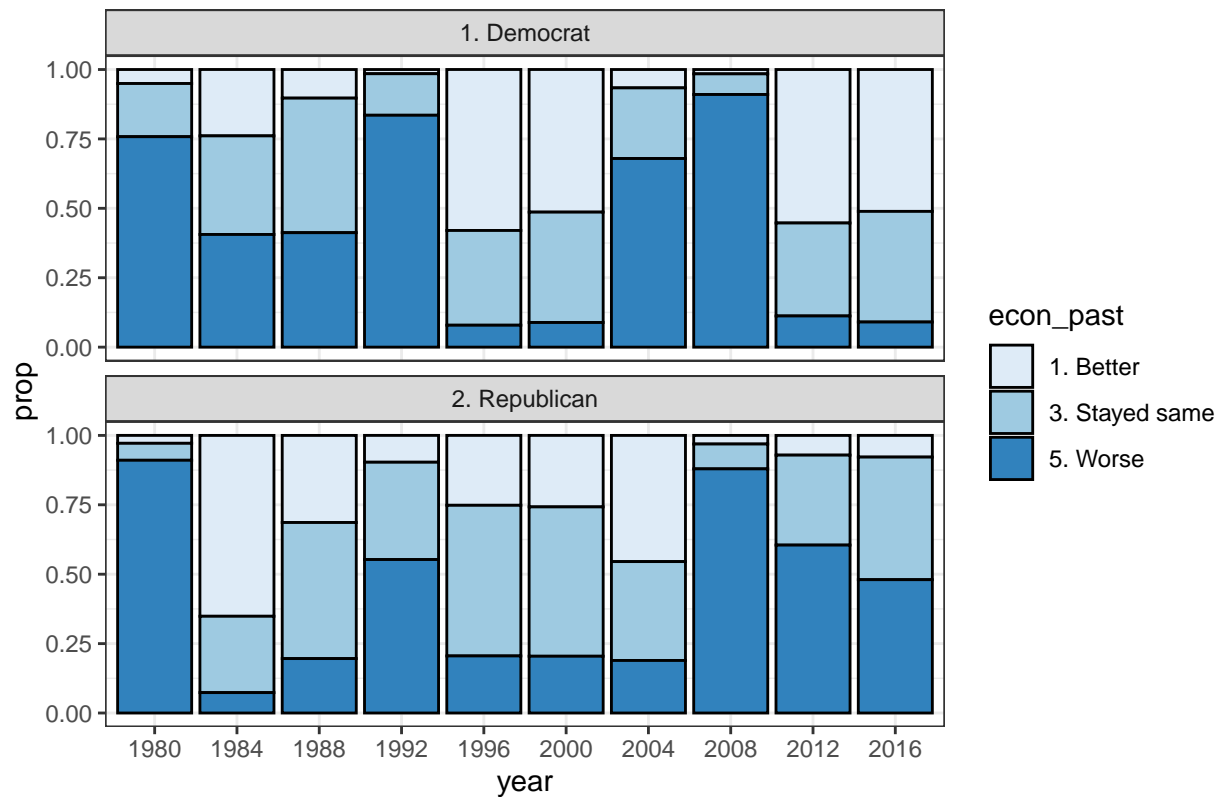
Load data

1. Economy

```r
# 1.1Past
econ_past_hist = anes_use %>%
  filter(!is.na(econ_past))  %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_past) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )


ggplot(econ_past_hist,
       aes(x=year, y=prop, fill=econ_past))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="How much economy better or worse last year?")
```
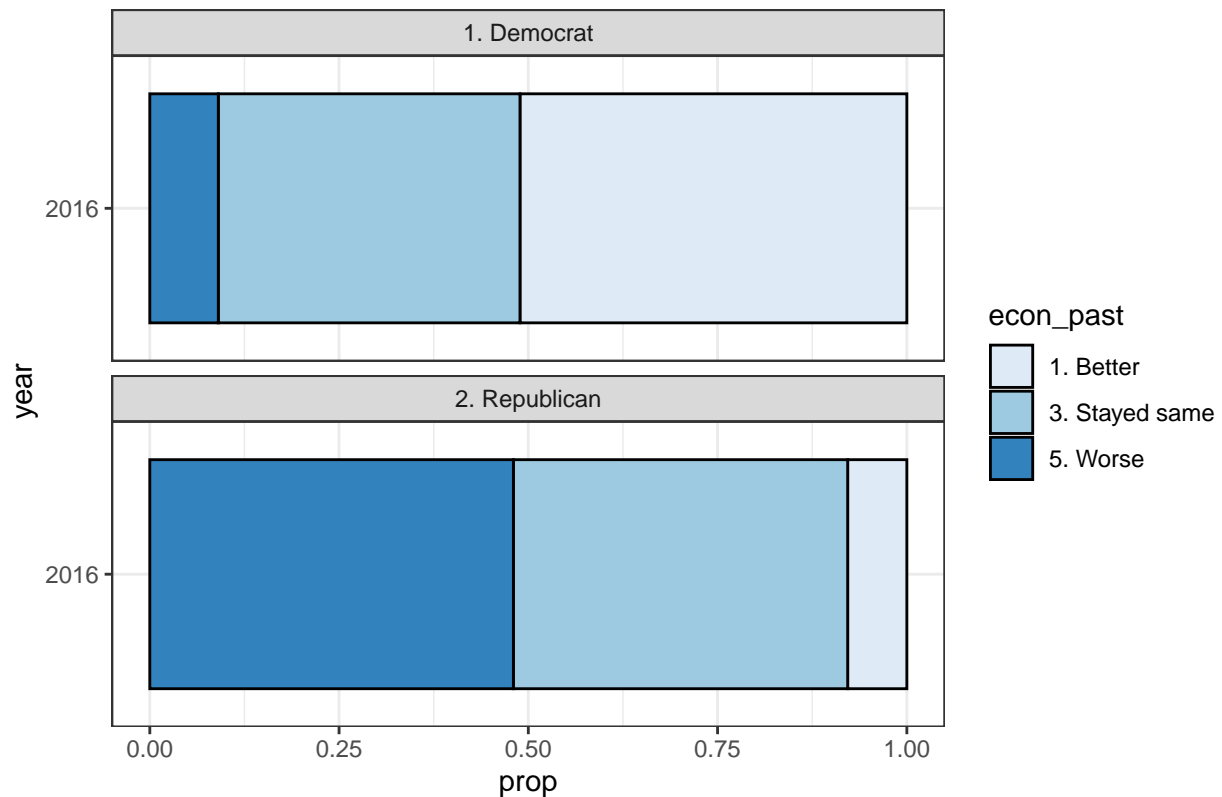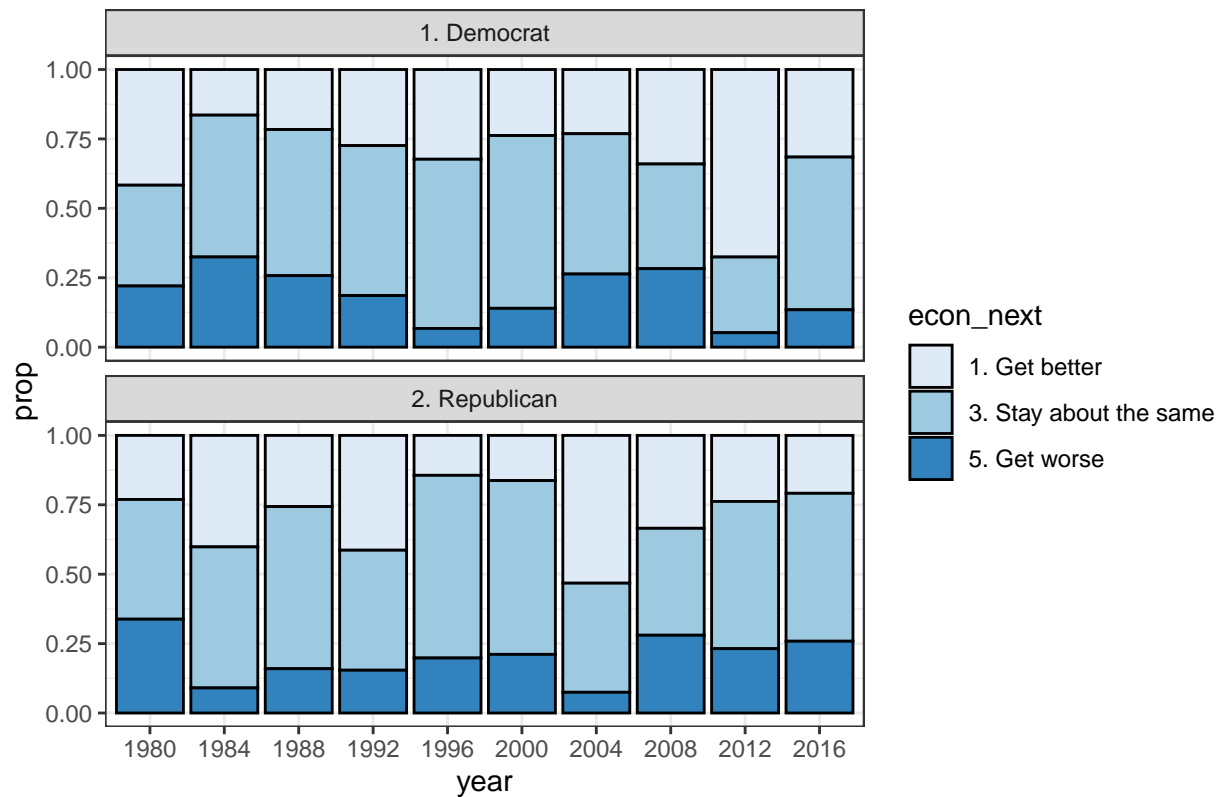
How much economy better or worse last year?

```
econ_past_2016 = dat_2016 %>%
  filter(!is.na(econ_past) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_past) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_past_2016,
       aes(x=prop, y=year, fill=econ_past))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="How much economy better or worse last year?")
```

How much economy better or worse last year?


```
# 1.2Future

econ_next_hist = anes_use %>%
  filter(!is.na(econ_next))  %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_next) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_next_hist,
       aes(x=year, y=prop, fill=econ_next))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="How much economy better or worse next year?")
```

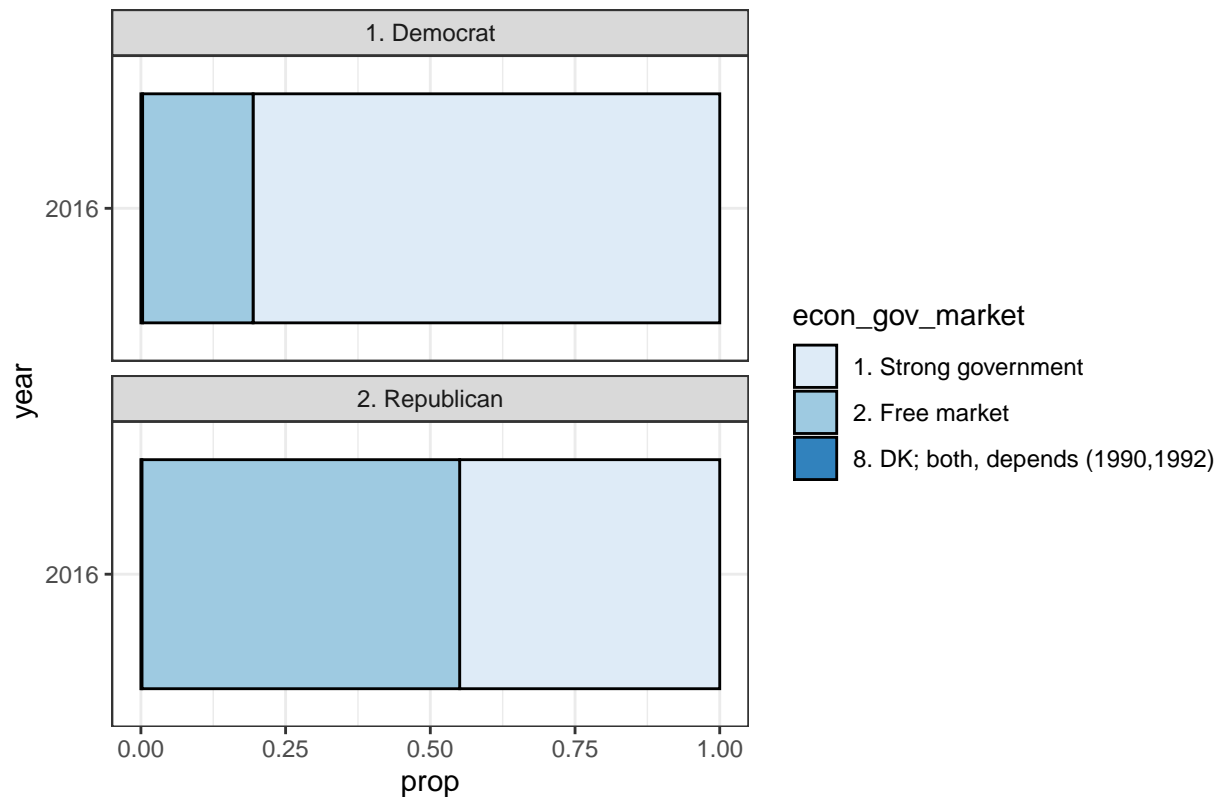How much economy better or worse next year?

```
econ_next_2016 = dat_2016 %>%
  filter(!is.na(econ_next) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_next) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_next_2016,
       aes(x=prop, y=year, fill=econ_next))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="How much economy better or worse next year?")
```

How much economy better or worse next year?
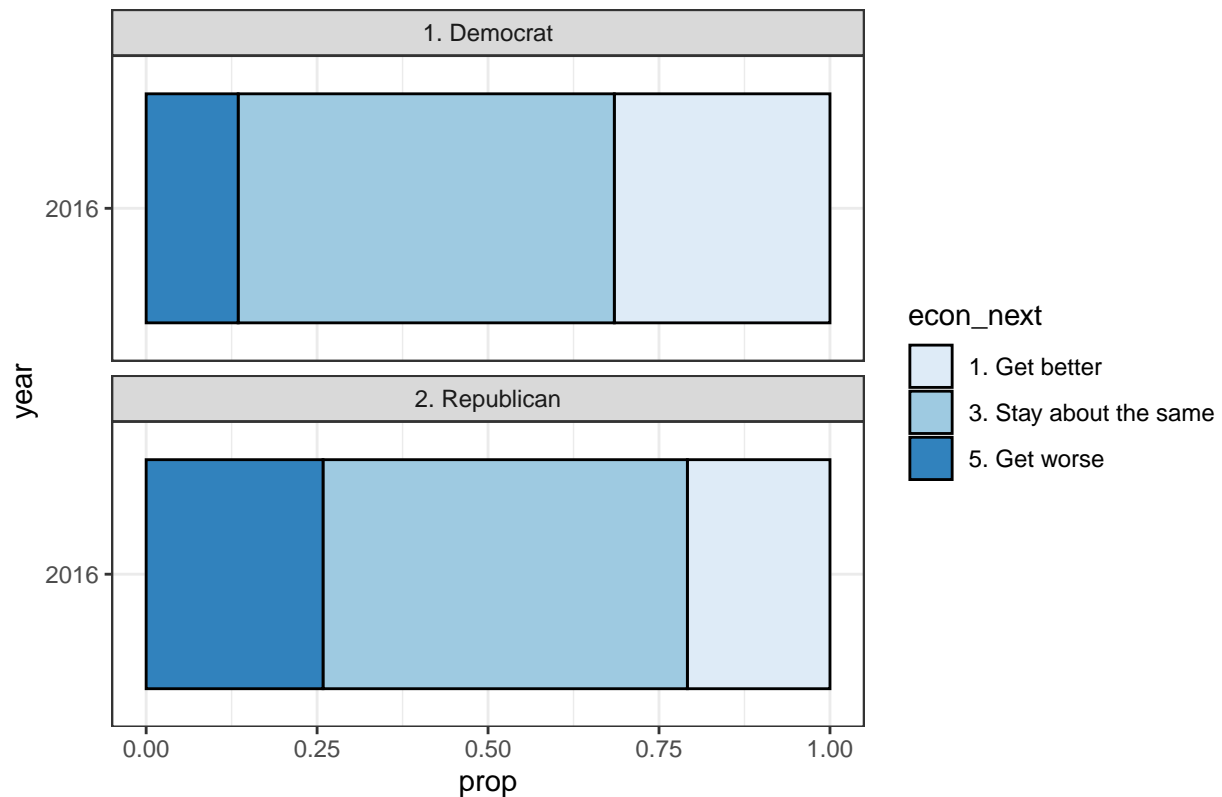

```
# 2.Goverment control or Freemarket?

econ_gov_mar_2016 = dat_2016 %>%
  filter(!is.na(econ_gov_market) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_gov_market) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_gov_mar_2016,
       aes(x=prop, y=year, fill=econ_gov_market))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="Government can handel economy or freemarket handel?")
```

Government can handel economy or freemarket handel?


```r
# 3.Which party can handel economy

econ_party_2016 = dat_2016 %>%
  filter(!is.na(econ_party) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_party) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_party_2016,
       aes(x=prop, y=year, fill=econ_party))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Which party would do a better job handeling national economy?")
```

Which party would do a better job handeling national economy?
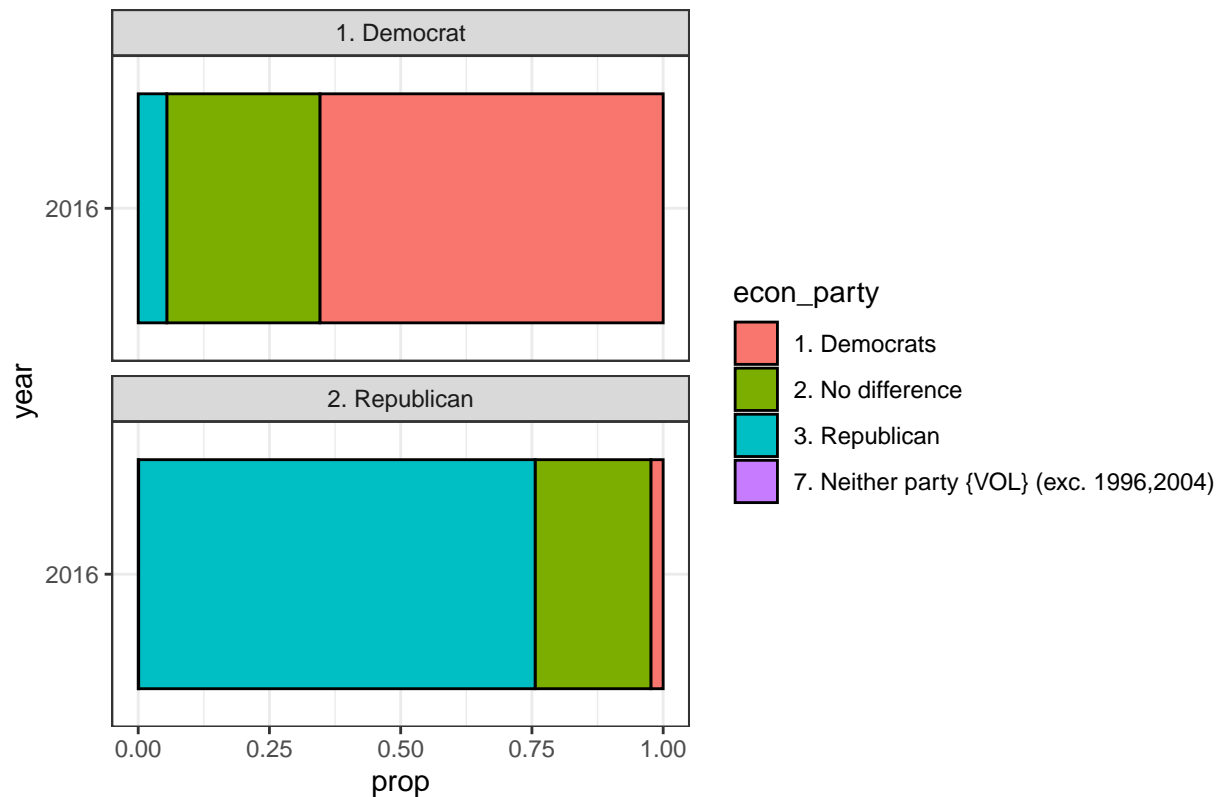

```r
# 4.Invest in stock market?
econ_stock_2016 = dat_2016 %>%
  filter(!is.na(econ_stock) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_stock) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(econ_stock_2016,
       aes(x=prop, y=year, fill=econ_stock))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Do you invest in stock market?")
```
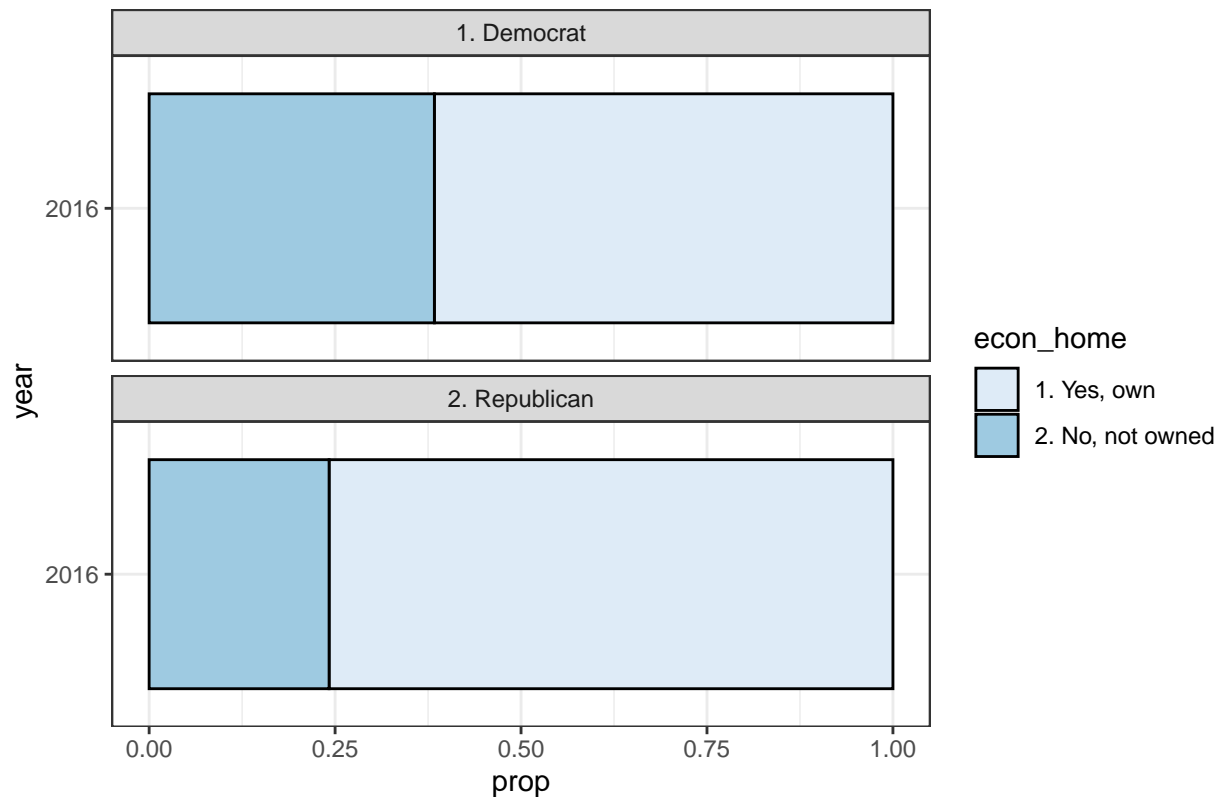
Do you invest in stock market?
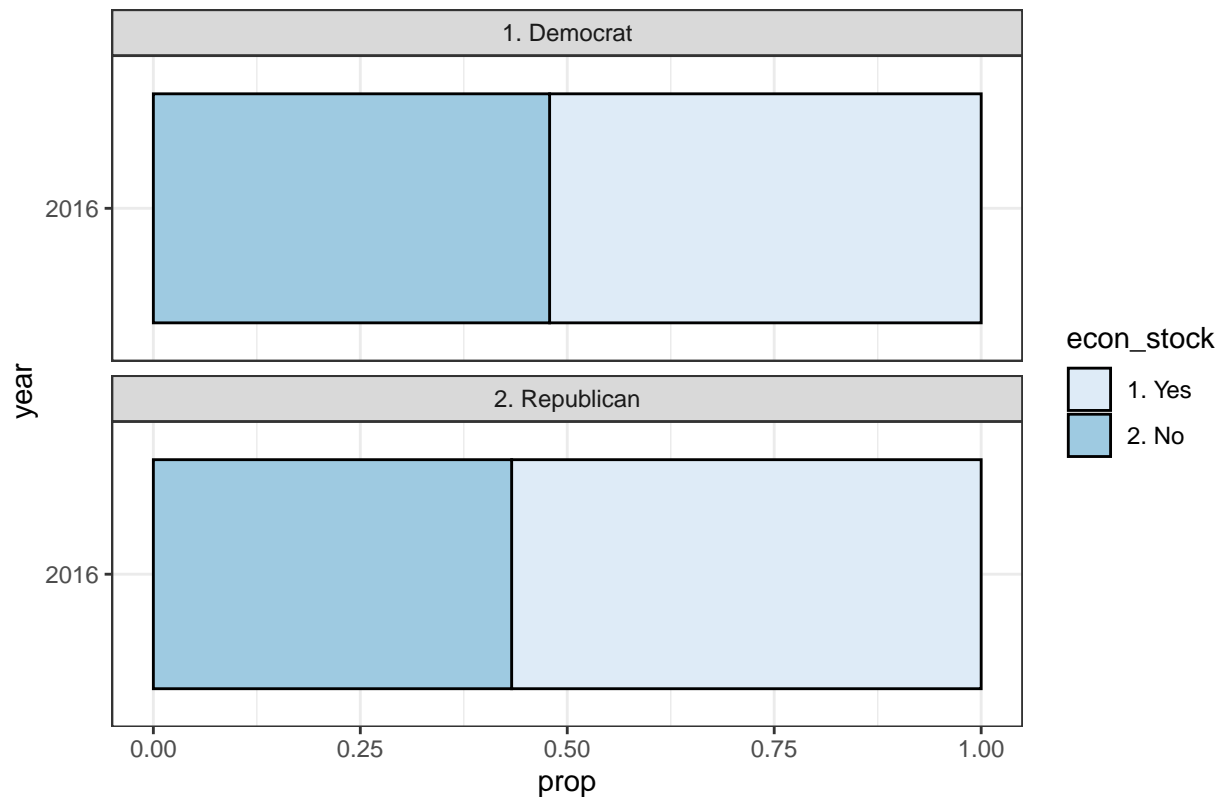

```
econ_stock_hist = anes_use %>%
  filter(!is.na(econ_stock))  %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_stock) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )


ggplot(econ_stock_hist,
       aes(x=year, y=prop, fill=econ_stock))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="Do you invest in stock market?")
```
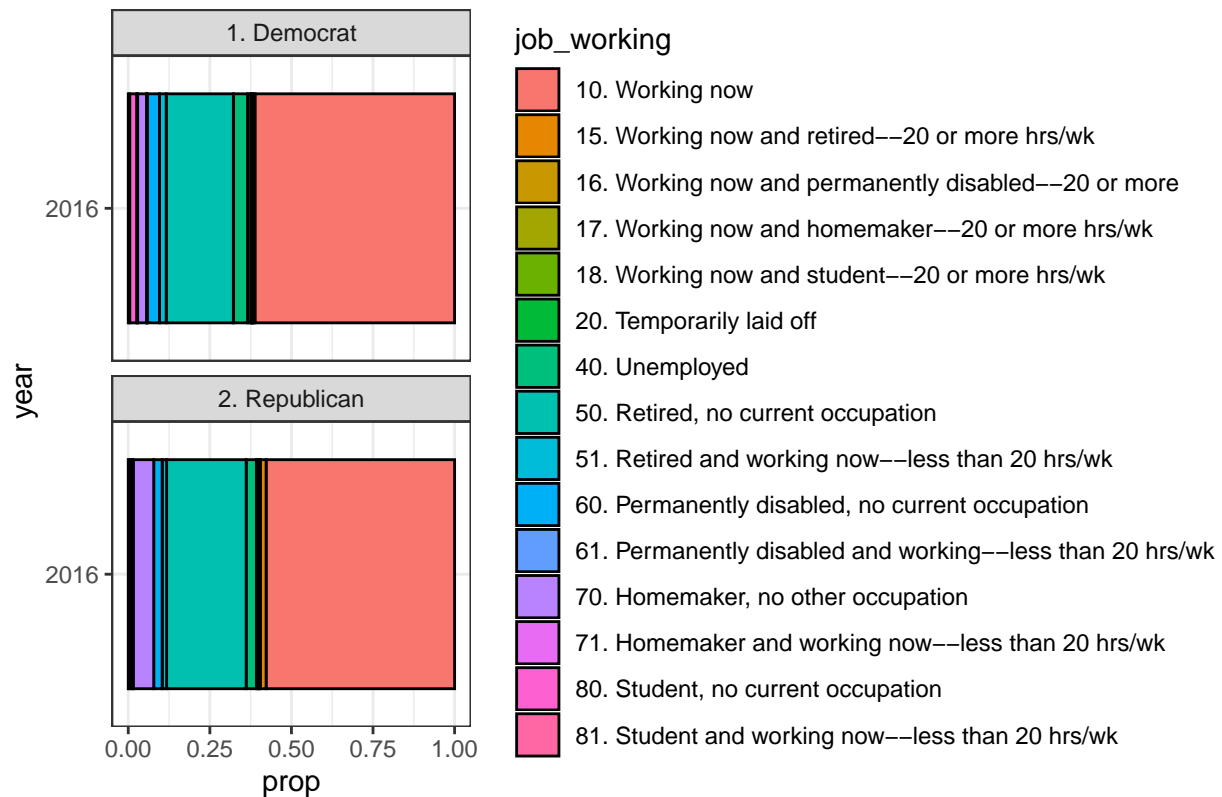
Do you invest in stock market?
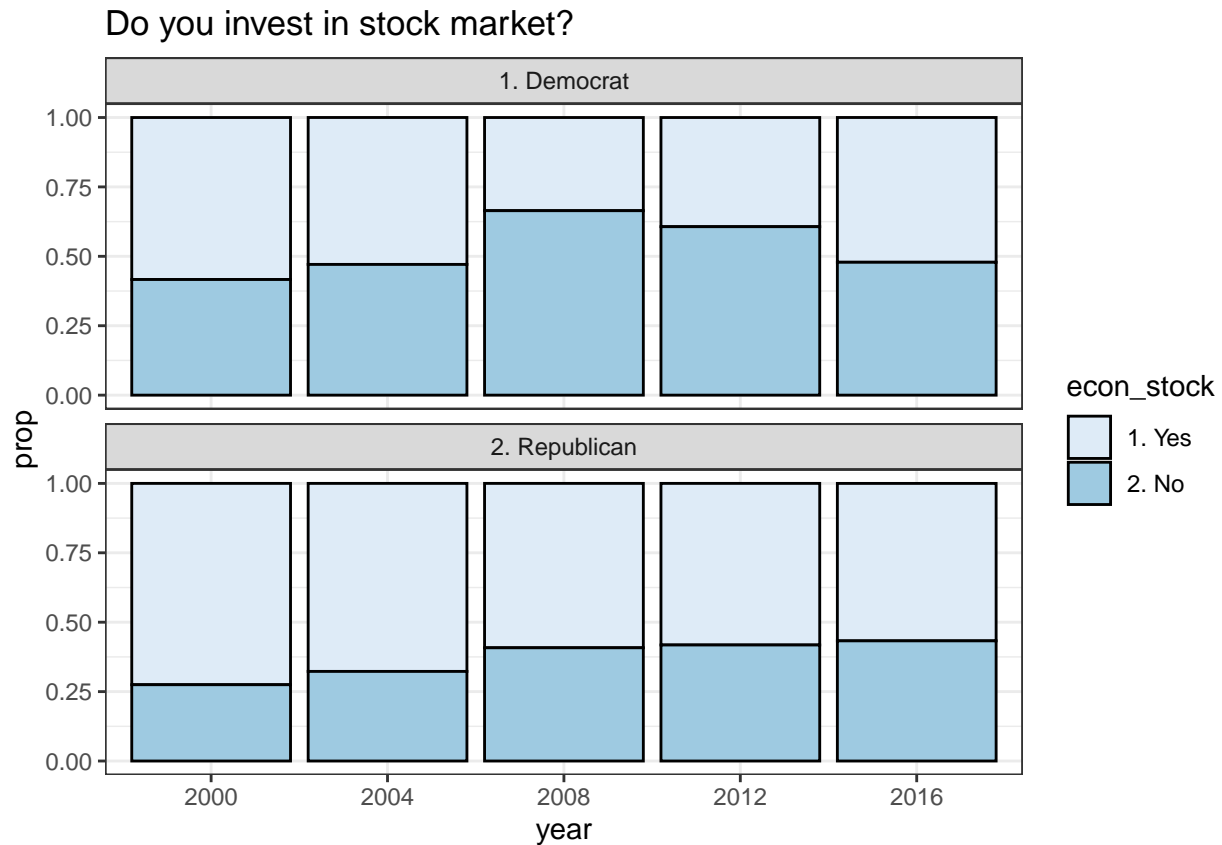

```r
# 5.Own home?
econ_home_2016 = dat_2016 %>%
  filter(!is.na(econ_home) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_home) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )


ggplot(econ_home_2016,
       aes(x=prop, y=year, fill=econ_home))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Do you own home?")
```

Do you own home?


```
econ_home_hist = anes_use %>%
  filter(!is.na(econ_home))  %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(econ_home) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )


ggplot(econ_home_hist,
       aes(x=year, y=prop, fill=econ_home))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  scale_fill_brewer(palette="Blues")+
  labs(title="Do you own home?")
```

Do you own home?
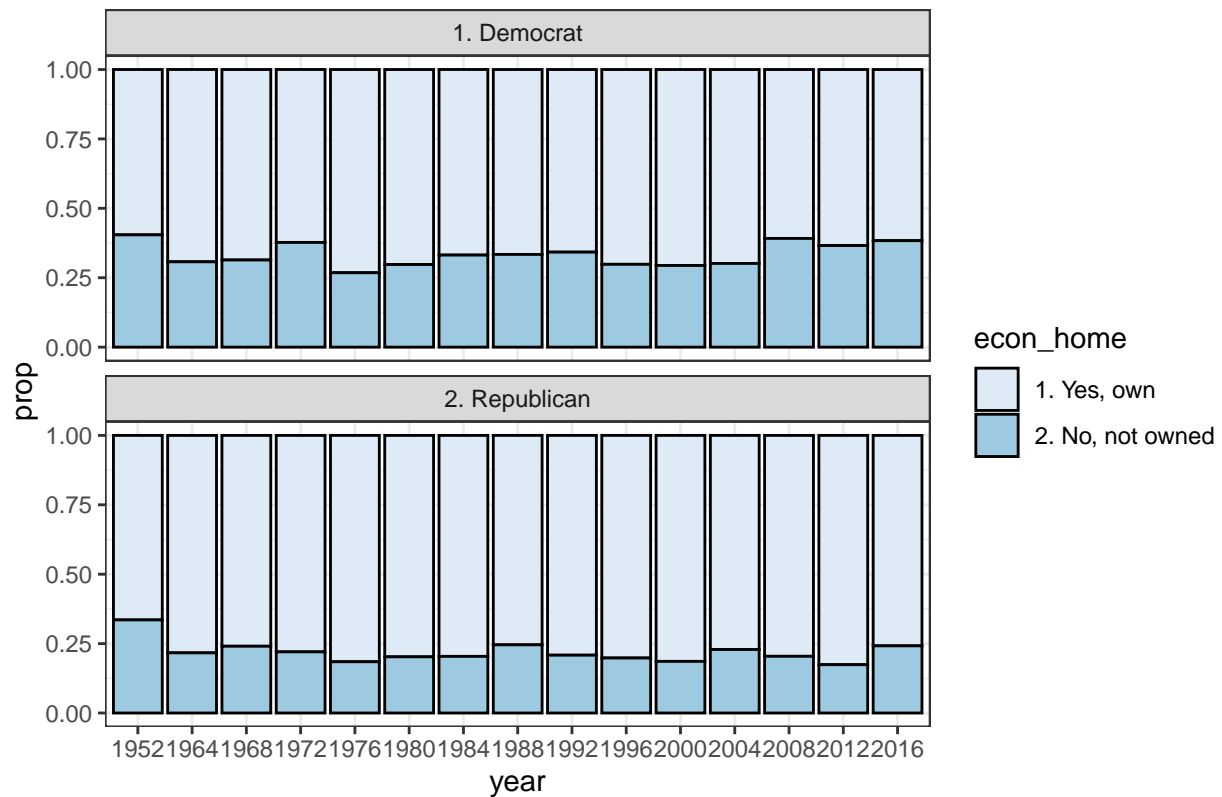
2. Jobs

```r
# 1.Current working status
job_working_2016 = dat_2016 %>%
  filter(!is.na(job_working) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(job_working) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(job_working_2016,
       aes(x=prop, y=year, fill=job_working))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Current working status of people who voted.")
```

Current working status of people who voted.


```r
# 2. Level of unemployment last year
job_unemp_past_2016 = dat_2016 %>%
  filter(!is.na(job_unemp_past) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(job_unemp_past) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(job_unemp_past_2016,
       aes(x=prop, y=year, fill=job_unemp_past))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Rate of umployment last year?")
```
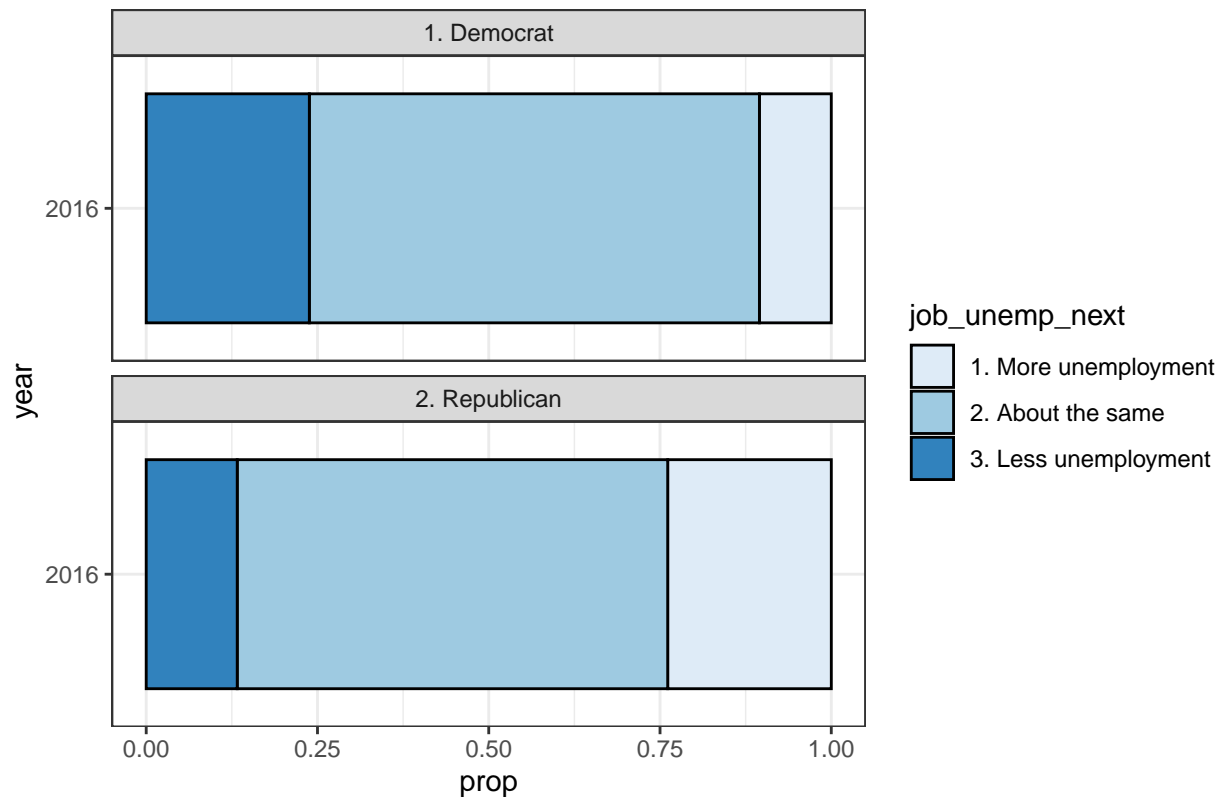
Rate of umployment last year?
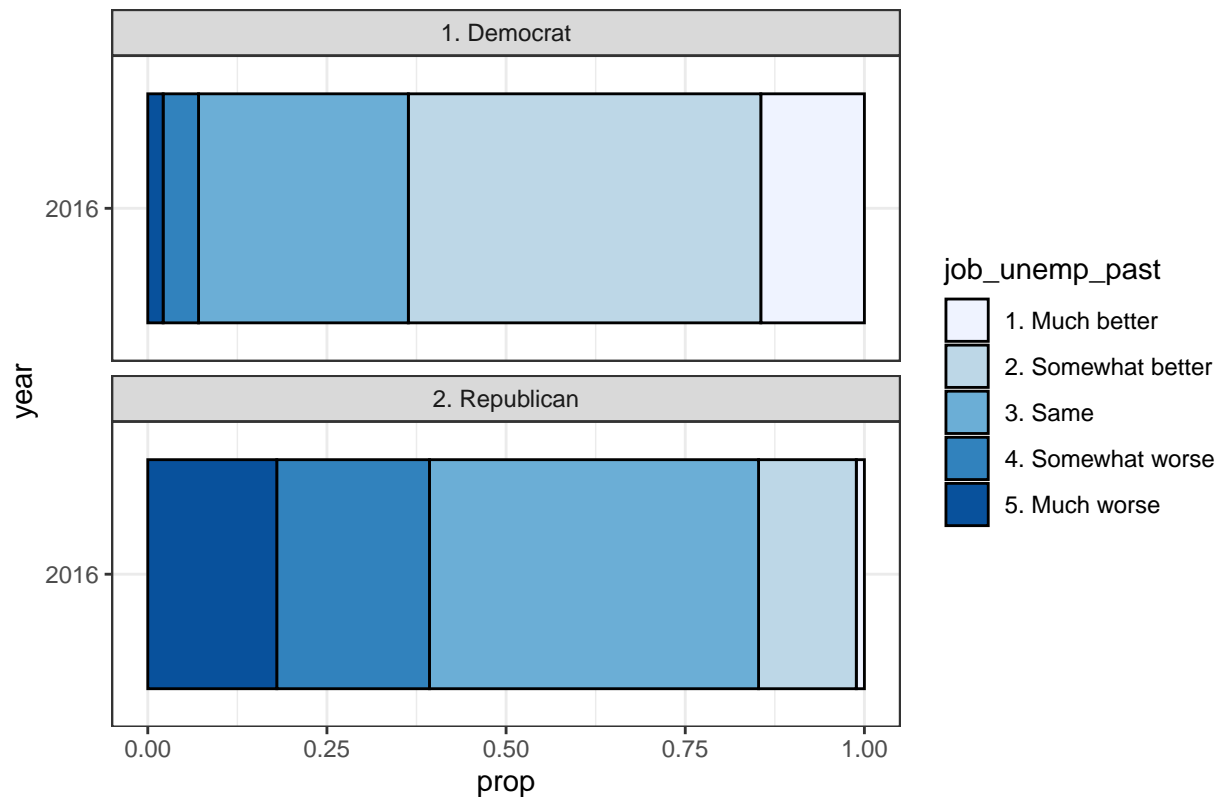

```
# 3. Level of unemployment next year
job_unemp_next_2016 = dat_2016 %>%
  filter(!is.na(job_unemp_next) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(job_unemp_next) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(job_unemp_next_2016,
       aes(x=prop, y=year, fill=job_unemp_next))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Rate of umployment next year?")
```

Rate of umployment next year?

```
# 4. New limits on foreign imports
job_foreign_2016 = dat_2016 %>%
  filter(!is.na(job_foreign) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(job_foreign) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(job_foreign_2016,
       aes(x=prop, y=year, fill=job_foreign))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Should U.S. government have new limits on foreign imports \n in order to protect job marke
```

## Should U.S. government have new limits on foreign imports in order to protect job market?
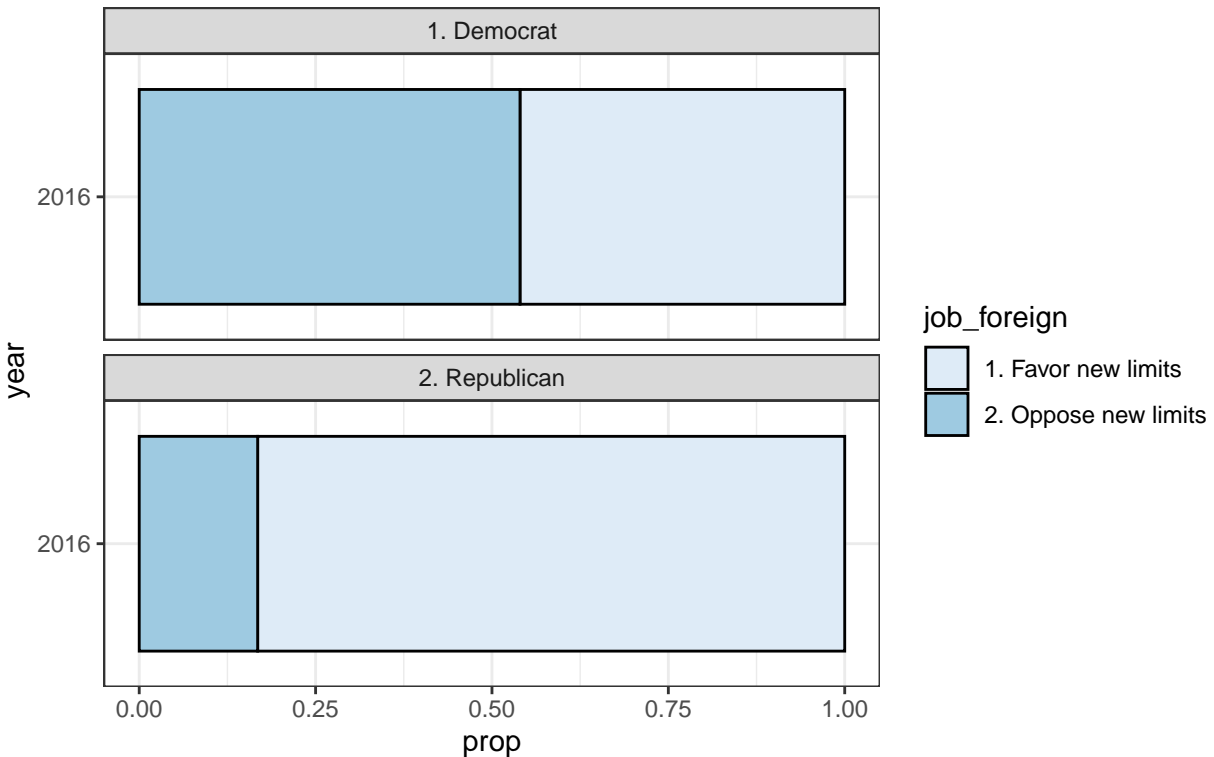
3. Immigration

```r
#1. Immigration took jobs
immig_job_2016 = dat_2016 %>%
  filter(!is.na(immig_job) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(immig_job) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )


ggplot(immig_job_2016,
       aes(x=prop, y=year, fill=immig_job))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="How likely new immigrants will take jobs from the people already here?")
```
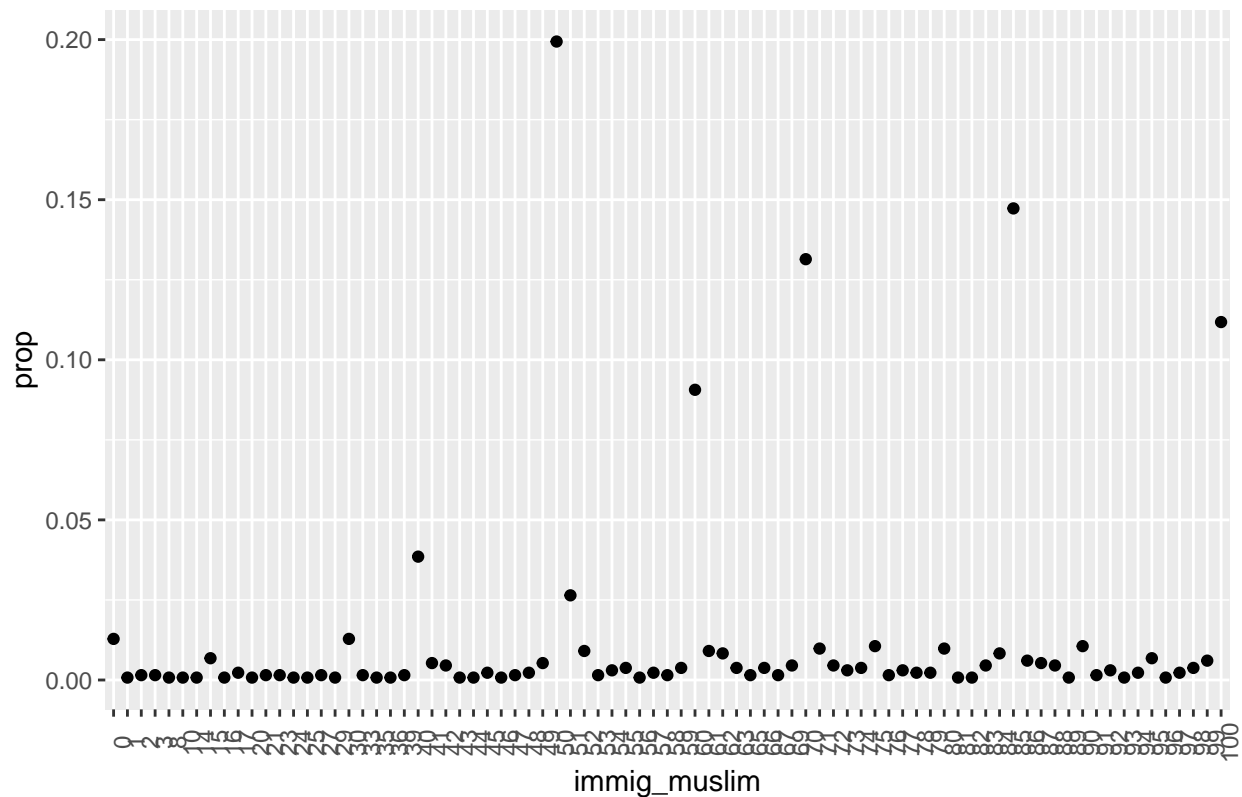
How likely new immigrants will take jobs from the people already here?
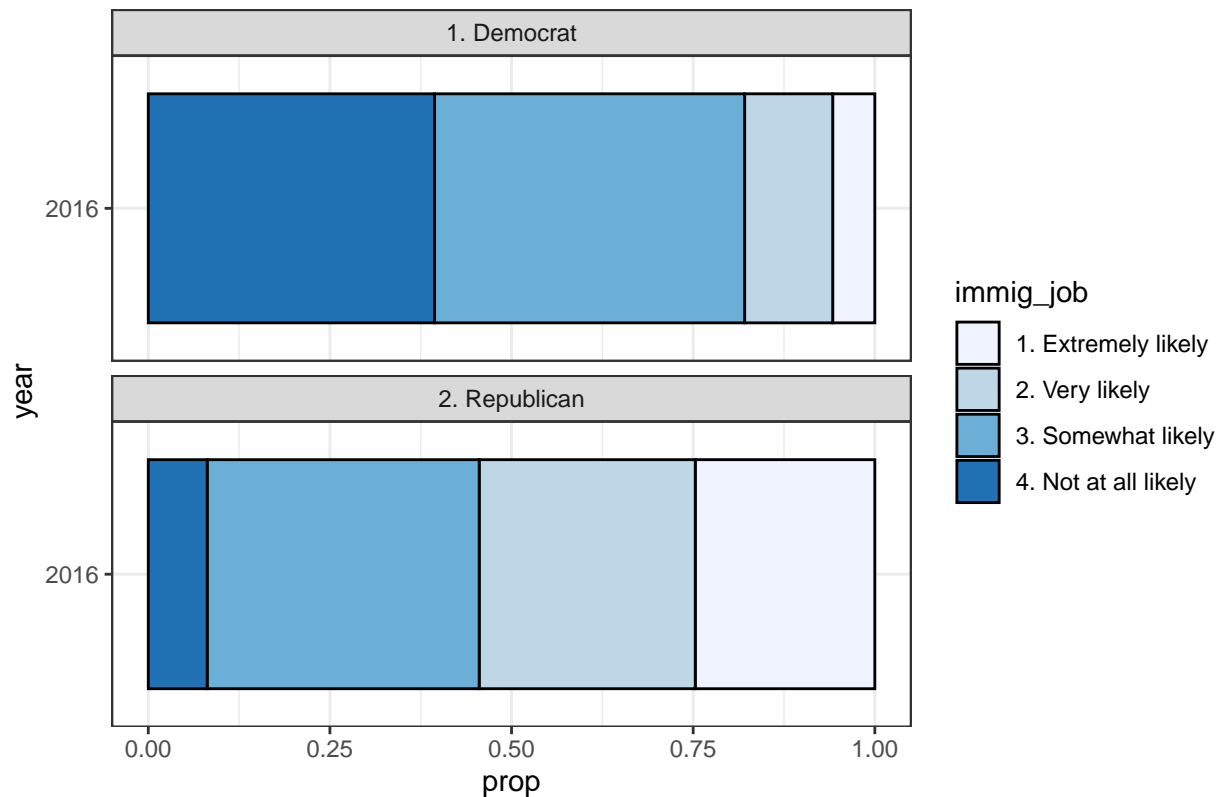

```
# 2. Muslim Thermometer
immig_muslim_2016_demo = dat_2016 %>%
  filter(!is.na(immig_muslim) ) %>%
  filter(vote == "1. Democrat") %>%
  count(immig_muslim) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(data=immig_muslim_2016_demo)+
geom_point(mapping = aes(x=immig_muslim, y=prop))+
theme(axis.text.x = element_text(angle = 90))+
  labs(title="Muslim Thermometer from the people who voted for democratic")
```
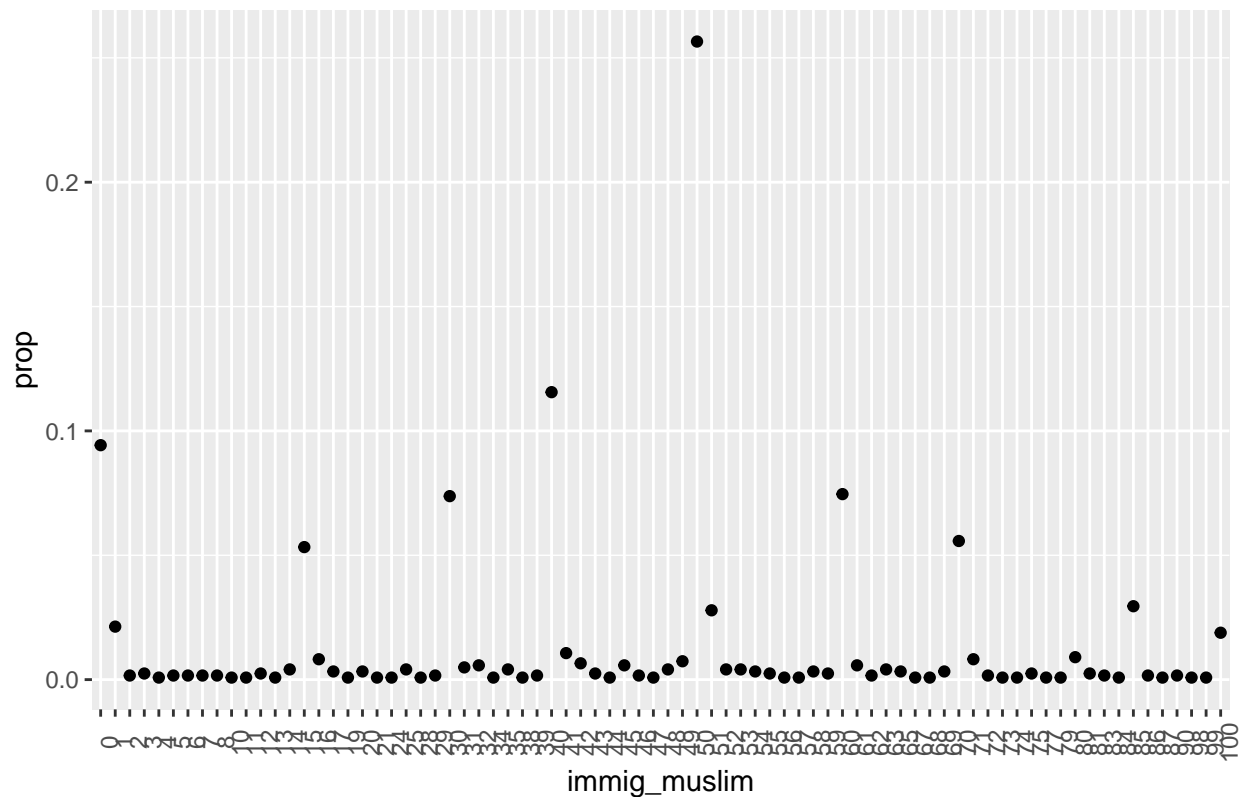
Muslim Thermometer from the people who voted for democratic


```
immig_muslim_2016_rep = dat_2016 %>%
  filter(!is.na(immig_muslim) ) %>%
  filter(vote == "2. Republican") %>%
  count(immig_muslim) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(data=immig_muslim_2016_rep)+
geom_point(mapping = aes(x=immig_muslim, y=prop))+
theme(axis.text.x = element_text(angle = 90))+
  labs(title="Muslim Thermometer from the people who voted for republican")
```

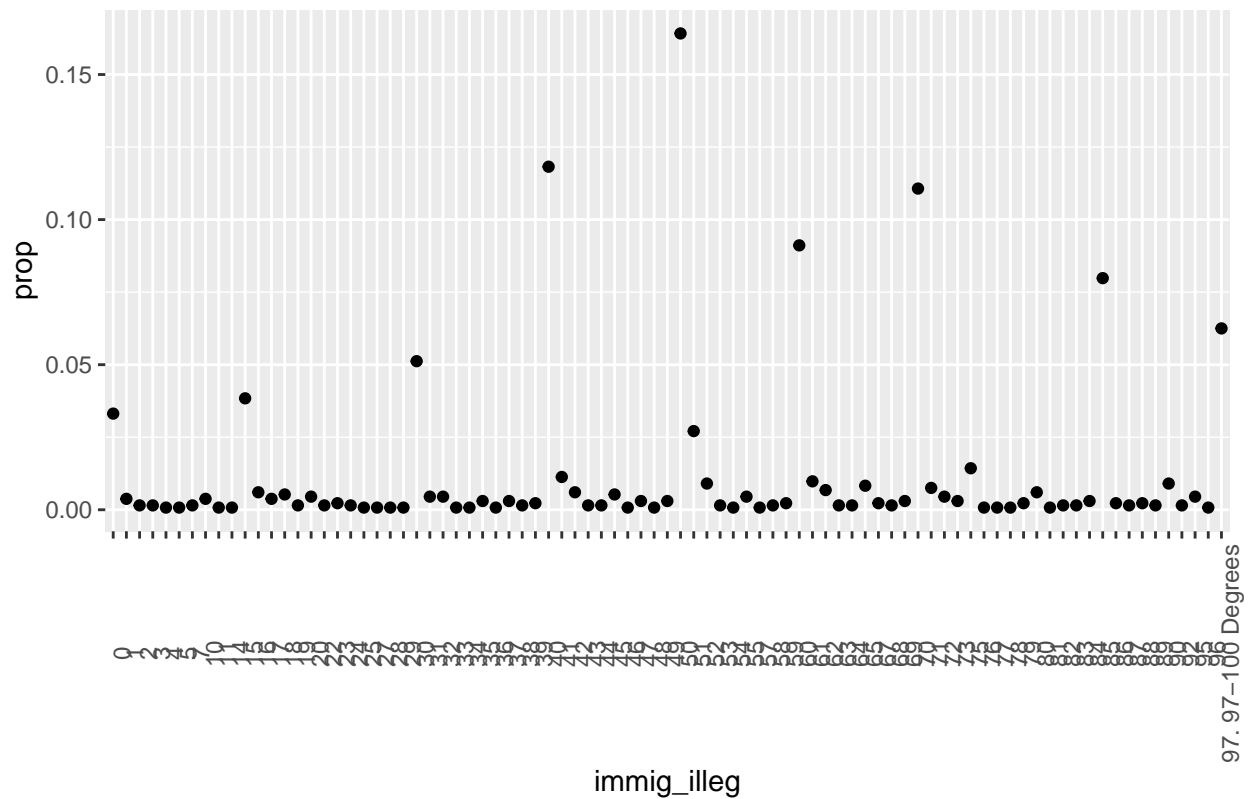## Muslim Thermometer from the people who voted for republican


```
#3.Illegal Immigration Theometer
immig_illeg_2016_demo = dat_2016 %>%
  filter(!is.na(immig_illeg) ) %>%
  filter(vote == "1. Democrat") %>%
  count(immig_illeg) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(data=immig_illeg_2016_demo)+
  geom_point(mapping = aes(x=immig_illeg, y=prop))+
  theme(axis.text.x = element_text(angle = 90))+
  labs(title="Illegal Immigration Thermometer from the people who voted for democratic")
```

Illegal Immigration Thermometer from the people who voted for democratic


```
immig_illeg_2016_rep = dat_2016 %>%
  filter(!is.na(immig_illeg) ) %>%
  filter(vote == "2. Republican") %>%
  count(immig_illeg) %>%
  mutate(
    prop = n/sum(n)
  )
ggplot(data=immig_illeg_2016_rep)+
geom_point(mapping = aes(x=immig_illeg, y=prop))+
theme(axis.text.x = element_text(angle = 90))+
  labs(title="Illegal Immigration Thermometer from the people who voted for republican")
```

## Illegal Immigration Thermometer from the people who voted for republican

immig_illeg
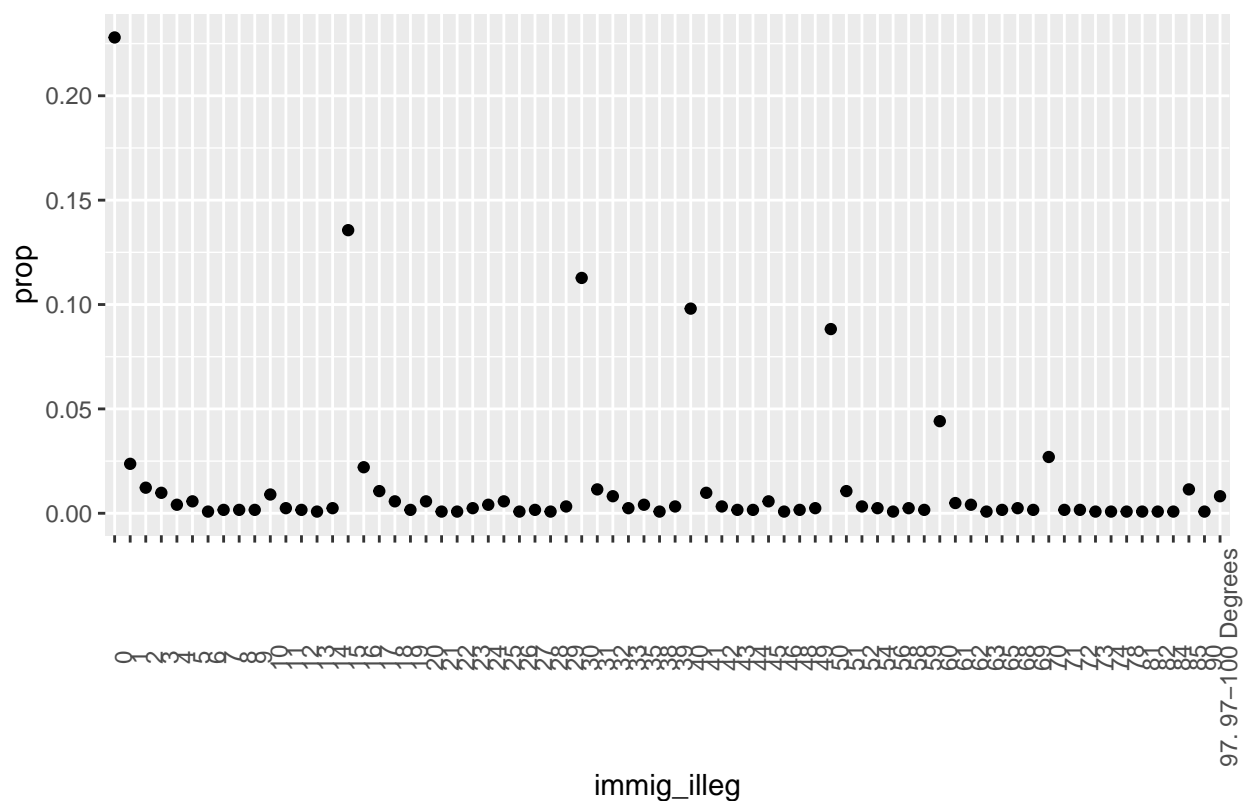
```
#4. Increasing Immigration
immig_incre_2016 = dat_2016 %>%
  filter(!is.na(immig_incre) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(immig_incre) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(immig_incre_2016,
       aes(x=prop, y=year, fill=immig_incre))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Increase or decrease number of immigrant to the U.S.?")
```

## Increase or decrease number of immigrant to the U.S.?
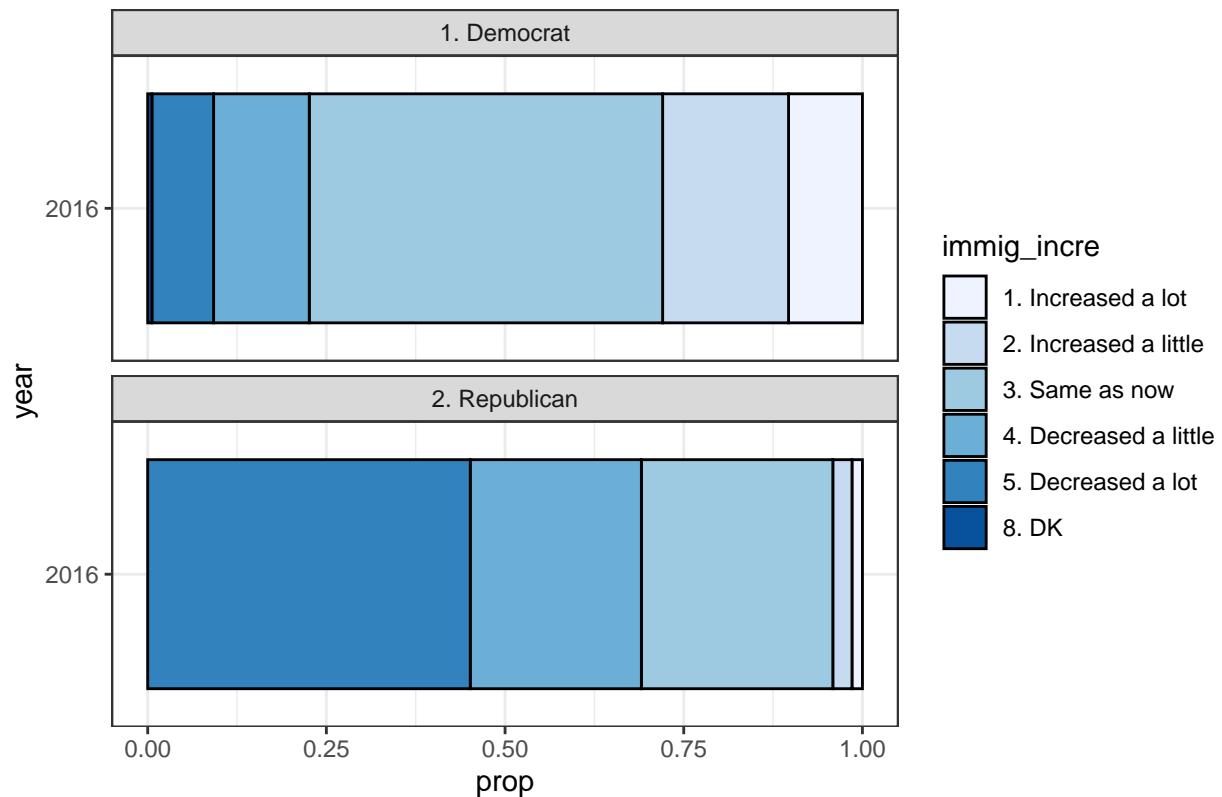
4. Tax

```r
# 1.Waste tax
weal_wastetax_2016 = dat_2016 %>%
  filter(!is.na(weal_wastetax) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(weal_wastetax) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(weal_wastetax_2016,
       aes(x=prop, y=year, fill=weal_wastetax))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="How much does the Federal Government waste tax money?")
```

How much does the Federal Government waste tax money?
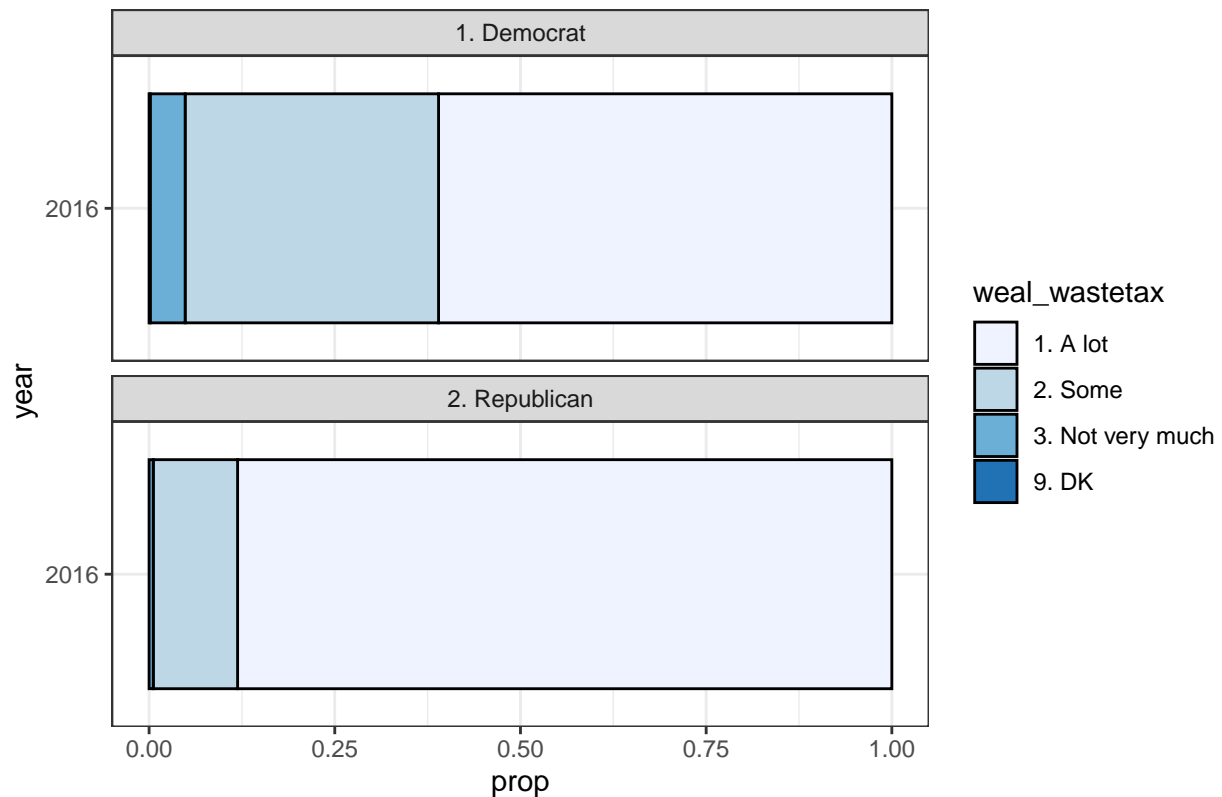

```r
# 2.Wealth gap
weal_gap_2016 = dat_2016 %>%
  filter(!is.na(weal_gap) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(weal_gap) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(weal_gap_2016,
       aes(x=prop, y=year, fill=weal_gap))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Is there smaller or larger income gaps \n between poor and wealthy people in the U.S. tha
```

## Is there smaller or larger income gaps between poor and wealthy people in the U.S. than 20 years ago?
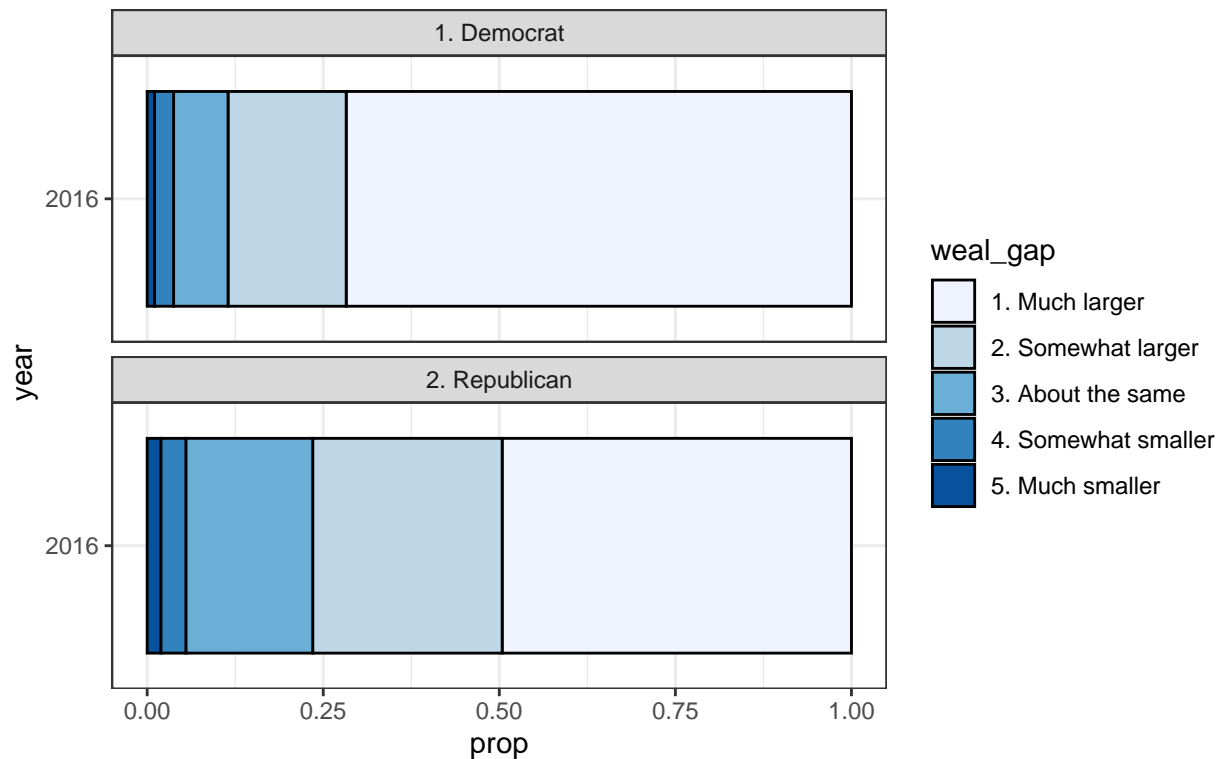
Candidates

```r
# 1. Demo Leadership

lead_demo_hist = anes_use %>%
  filter(!is.na(lead_demo) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(lead_demo) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(lead_demo_hist,
       aes(x=prop, y=year, fill=lead_demo))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Leadership of Democratic Candidate?")
```
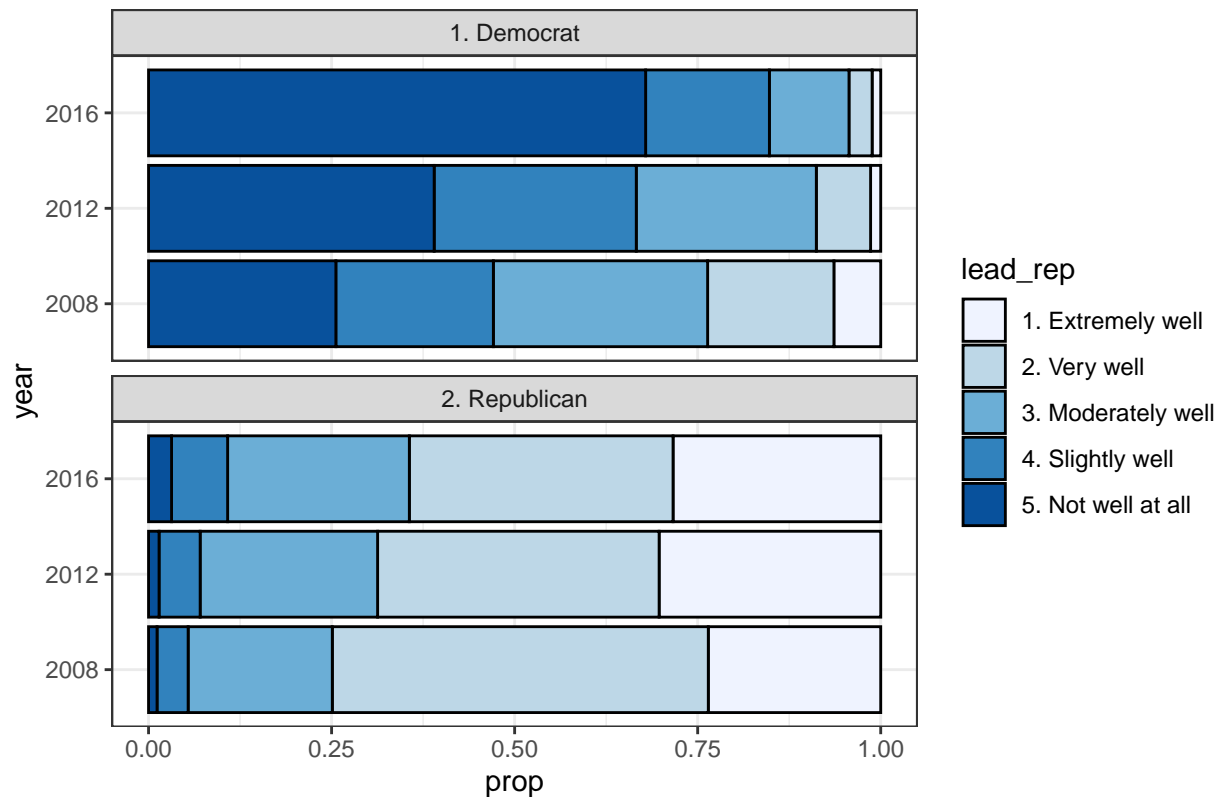
Leadership of Democratic Candidate?
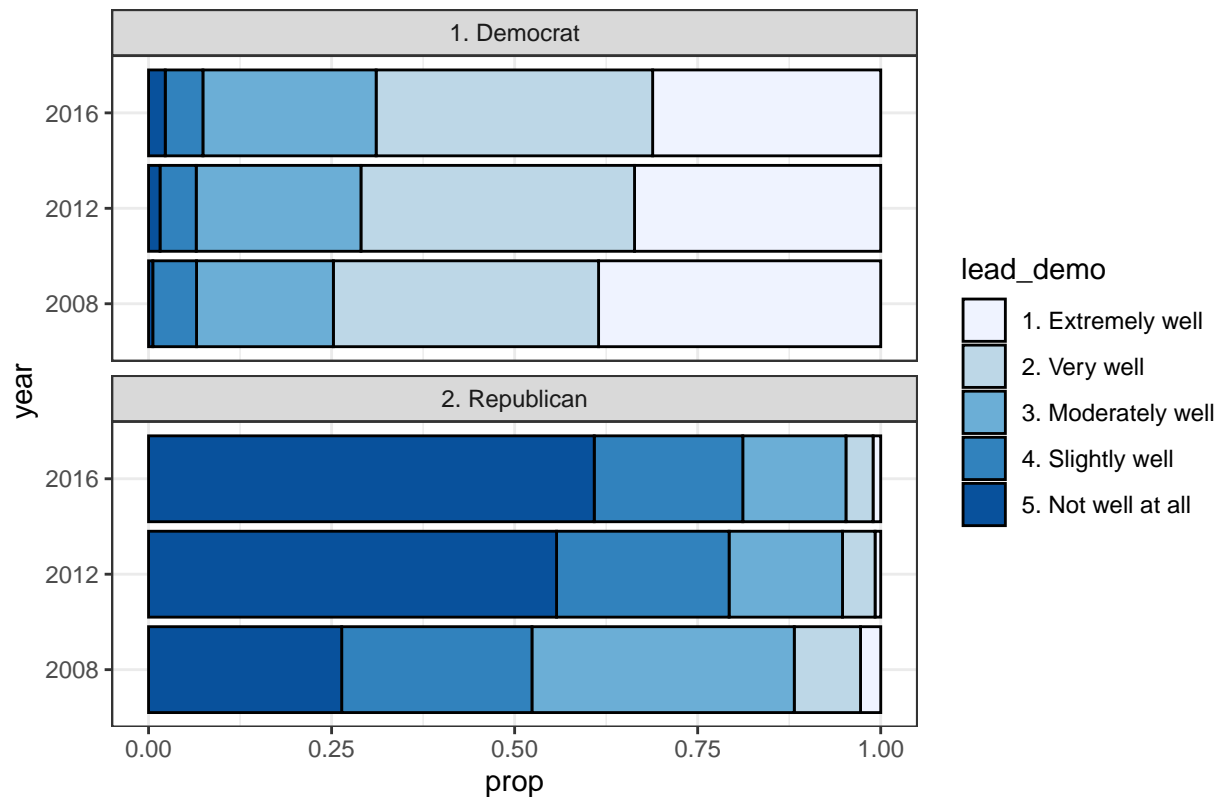

```r
# 2. Rep Leadership

lead_rep_hist = anes_use %>%
  filter(!is.na(lead_rep) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(lead_rep) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(lead_rep_hist,
       aes(x=prop, y=year, fill=lead_rep))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Leadership of Republican Candidate?")
```
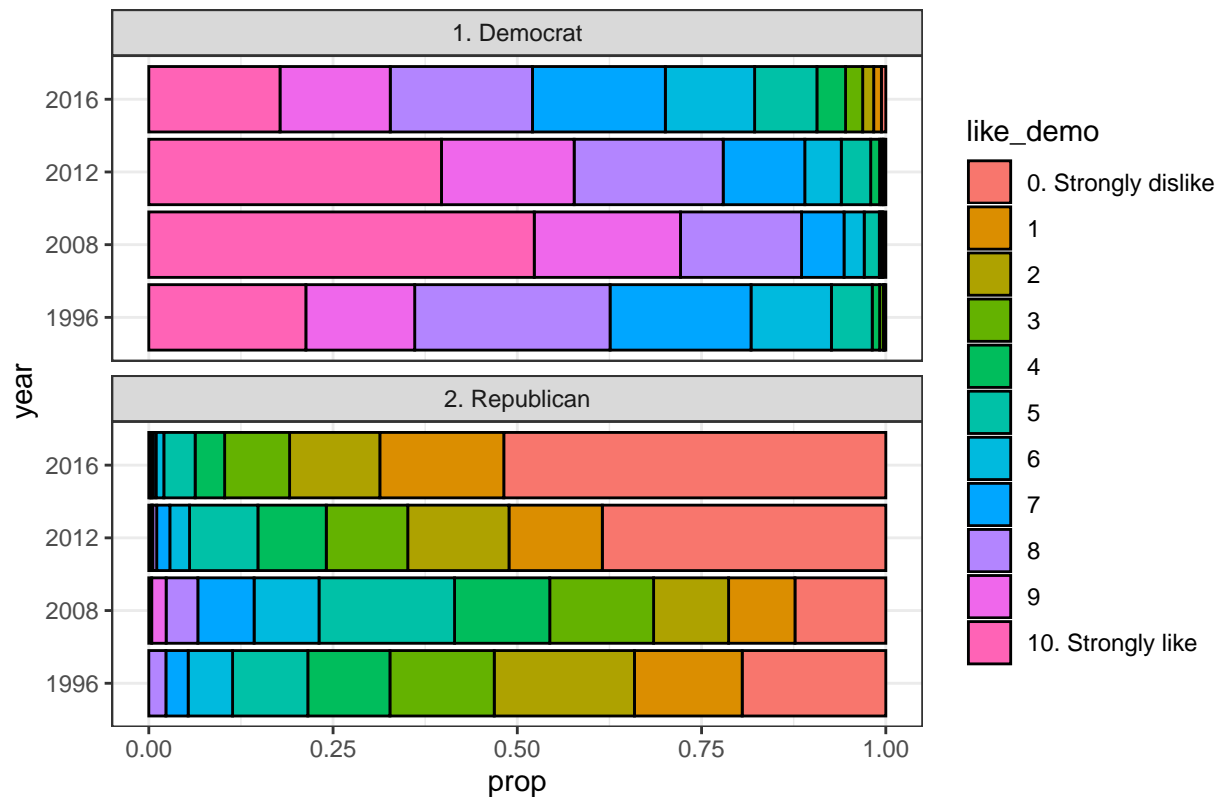
Leadership of Republican Candidate?

```
# 3. Like Demo
like_demo_hist = anes_use %>%
  filter(!is.na(like_demo) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(like_demo) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(like_demo_hist,
       aes(x=prop, y=year, fill=like_demo))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Do you like Democratic Candidate?")
```
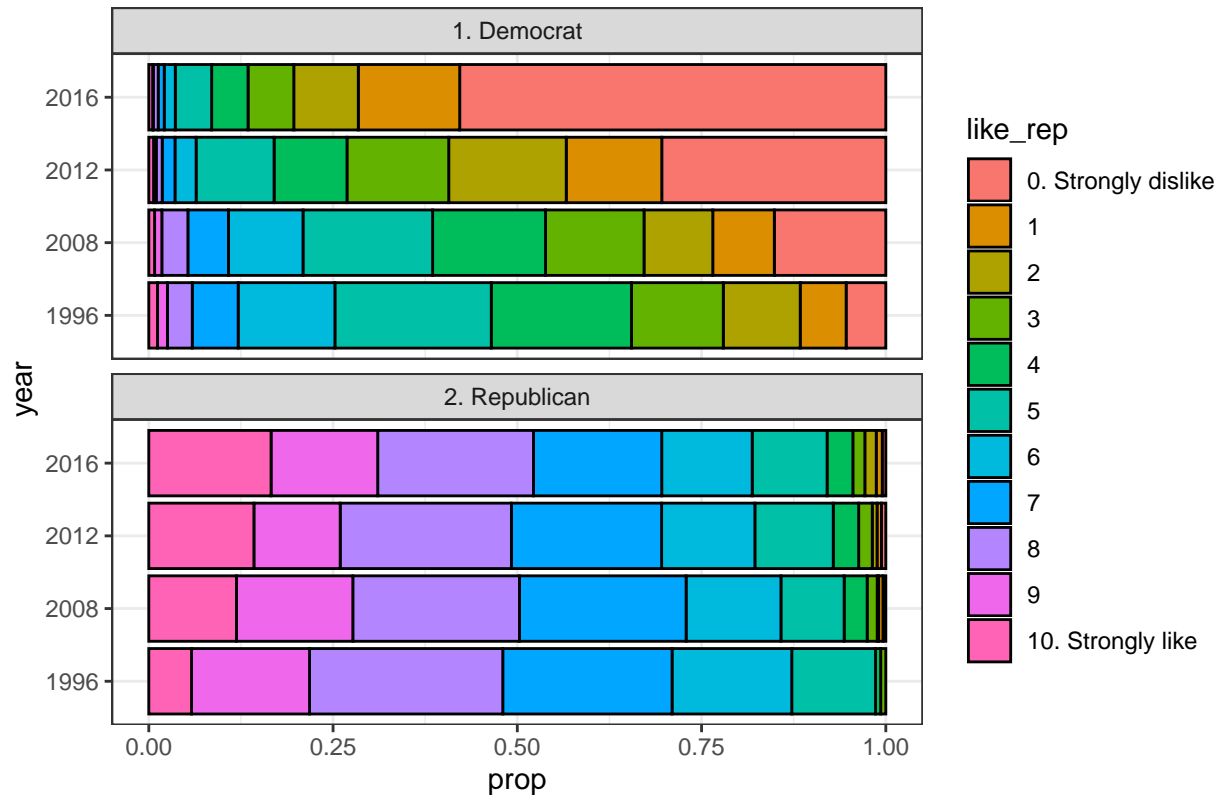
Do you like Democratic Candidate?


```
# 4. Like Rep

like_rep_hist = anes_use %>%
  filter(!is.na(like_rep) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(like_rep) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(like_rep_hist,
       aes(x=prop, y=year, fill=like_rep))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Do you like Republican Candidate?")
```

Do you like Republican Candidate?

1. Democrat

2. Republican

year

prop

like_rep

- 0. Strongly dislike
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10. Strongly like

```r
# 5. Would you prefer the candidate you voted?

prefer_hist = anes_use %>%
  filter(!is.na(prefer) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(prefer) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(prefer_hist,
       aes(x=prop, y=year, fill=prefer))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Would you prefer the candidate you voted?")
```

Would you prefer the candidate you voted?
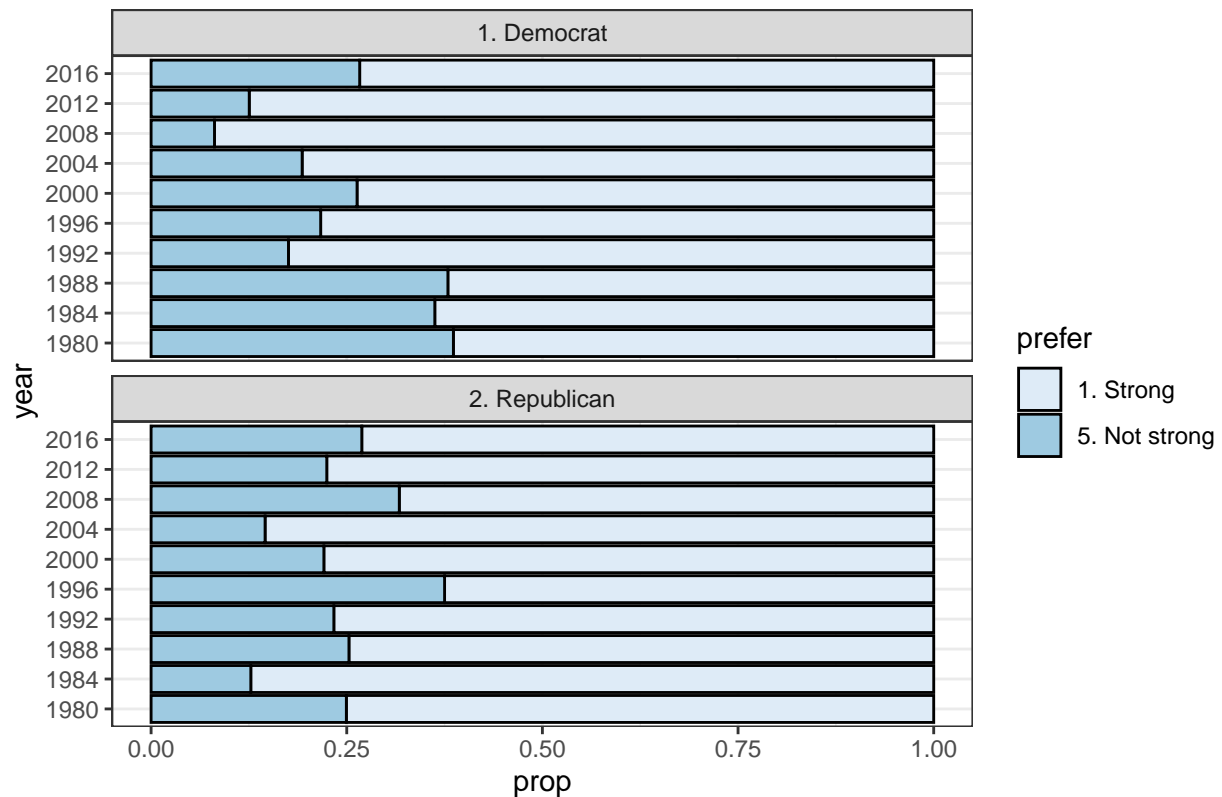
6. Environment

```r
# 1. Environment regulation
envir_regul_2016 = dat_2016 %>%
  filter(!is.na(envir_fedspend) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(envir_fedspend) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(envir_regul_2016,
       aes(x=prop, y=year, fill=envir_fedspend))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Should federal spending on improving and protecting the environment?")
```

Should federal spending on improving and protecting the environment?
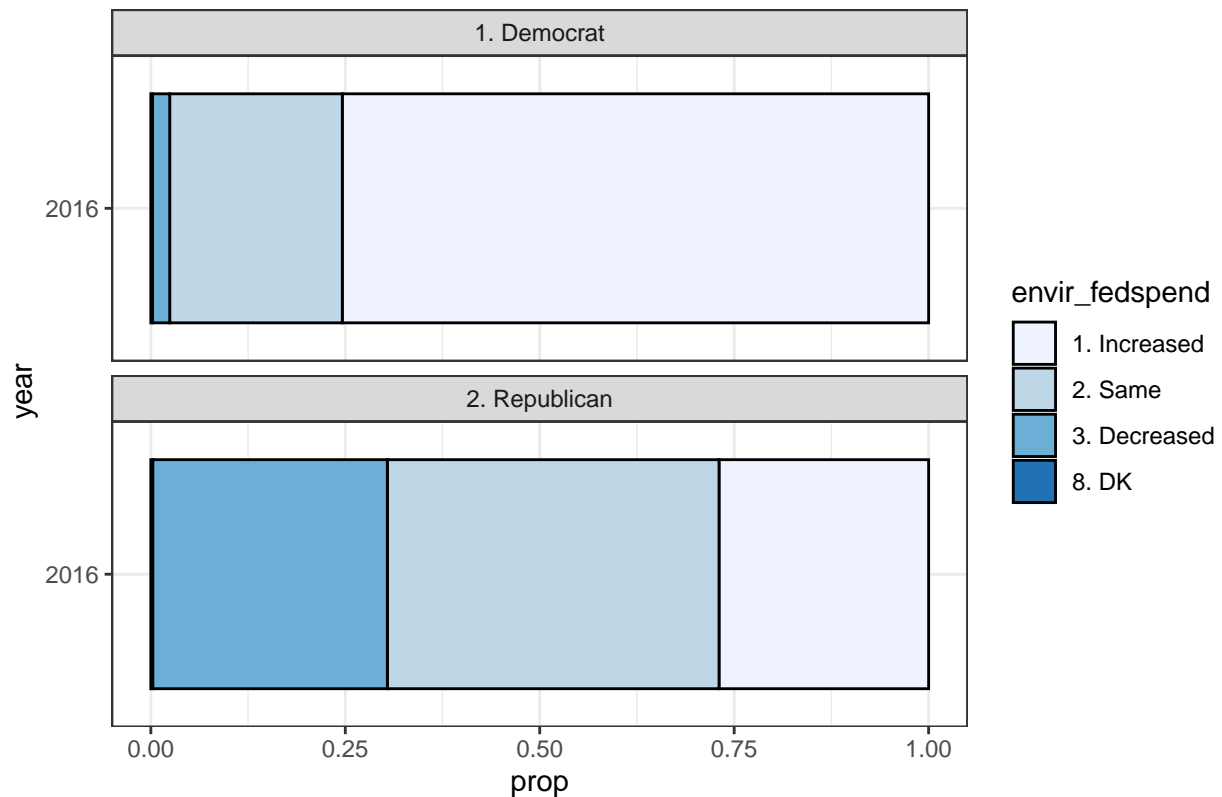
7. Income

```
income_2016 = dat_2016 %>%
  filter(!is.na(income) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(income) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(income_2016,
       aes(x=prop, y=year, fill=income))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Income Group")
```

Income Group
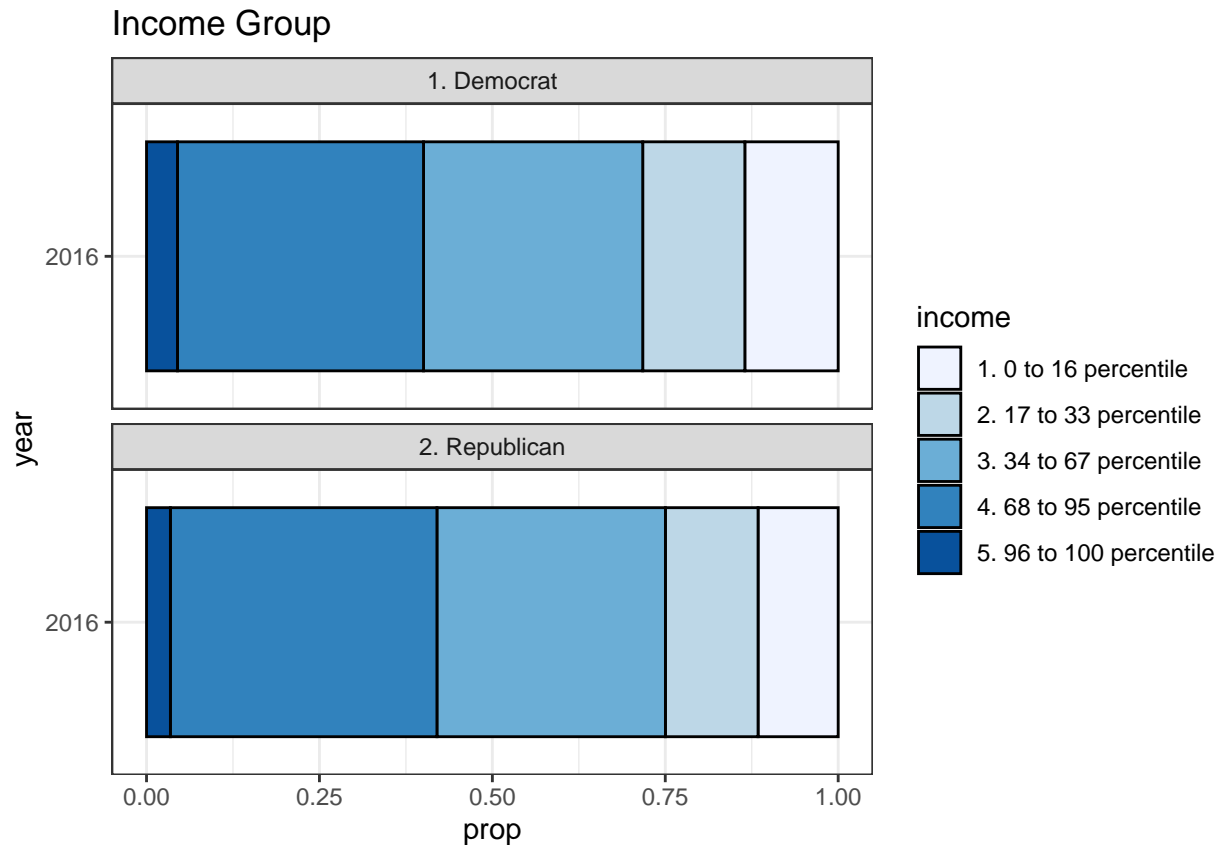
8. Gender

```r
gender_2016 = dat_2016 %>%
  filter(!is.na(gender) ) %>%
  filter(vote == "1. Democrat" | vote == "2. Republican") %>%
  group_by(year, vote) %>%
  count(gender) %>%
  group_by(year, vote) %>%
  mutate(
    prop = n/sum(n)
  )

ggplot(gender_2016,
       aes(x=prop, y=year, fill=gender))+
  geom_bar(stat="identity",colour="black")+
  facet_wrap(~vote,ncol=1) +
  theme_bw()+
  scale_fill_brewer(palette="Blues")+
  theme(axis.text.x = element_text(angle = 0))+
  labs(title="Gender")
```

Gender
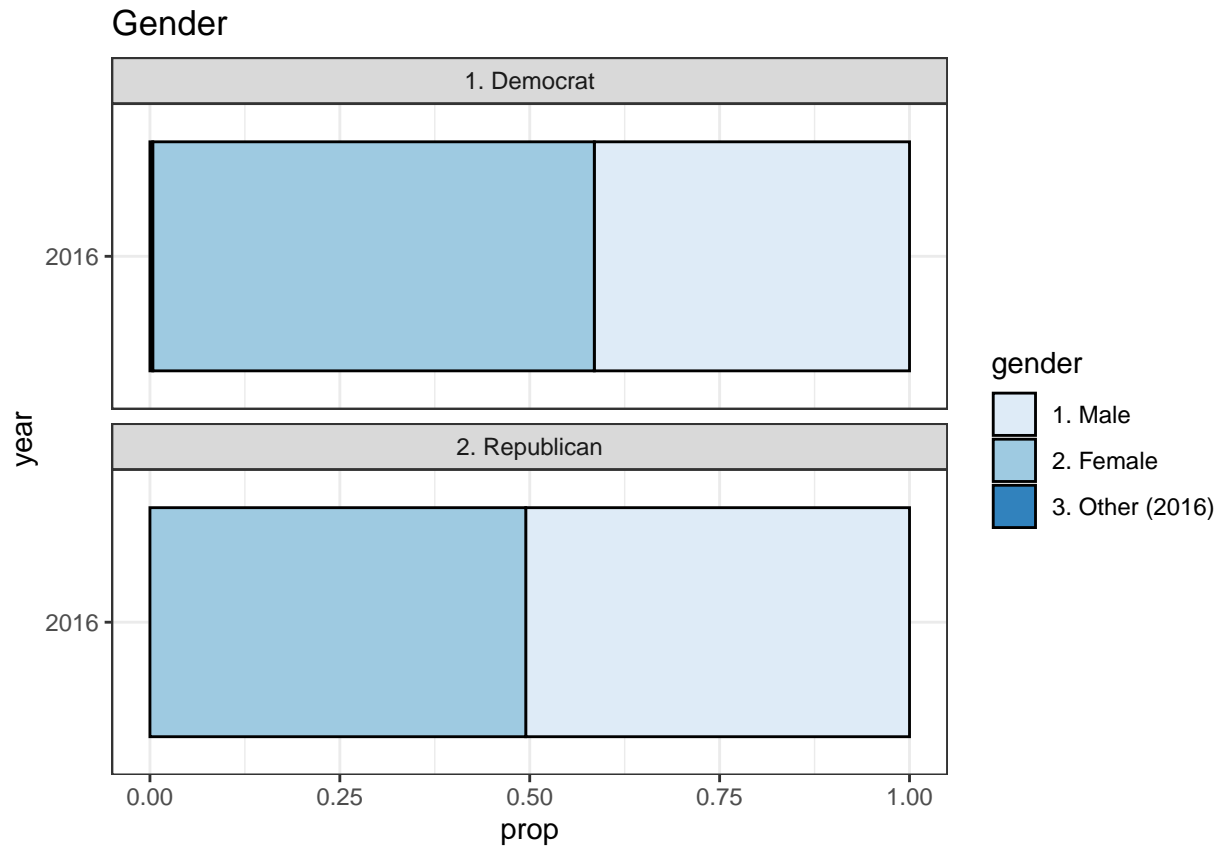
Notes: unemplyment relates to economy in general