This chapter considers the impact of frontier technologies on inequalities through the production's lens.

Technological change impacts inequalities through its effect on jobs, wages and profits.

The channels of impact of frontier technologies are not different from previous technologies, but each wave of technological change brings inequality in new shapes. Today, major concerns are related to risks of:

| Automation taking jobs in large scale | Job polarization | The gig economy and the reduction of labour rights | The inequalities created by market and profit concentration | Increase of inequality driven by AI | Widening technological gaps |

Developing countries face particular challenges:

- Demographic changes
- Existing technological gaps
- Low economic diversification
- Weak financing mechanism
- Stringent intellectual property rights

To benefit from frontier technologies, countries need to promote their use, adoption and adaptation, while addressing their potential adverse effects.

```
        self.conv1 = self.conv1(x)
        x = self.flatten(x)
        x = self.d1(x)
        return self.d2(x)

model = MyModel()

with tf.GradientTape() as tape:
    logits = model(images)
    loss_value = loss(logits, labels)

grads = tape.gradient(loss_value, model.trainable_variables)
optimizer.apply_gradients(zip(grads, model.trainable_variables))

class MyModel(tf.keras.Model):

    def __init__(self):
        super(MyModel, self).__init__()
        self.conv1 = Conv2D(32, 3, activation='relu')
        self.flatten = Flatten()
        self.d1 = Dense(128, activation='relu')
        self.d2 = Dense(10, activation='softmax')

    def call(self, x):
        x = self.conv1(x)
        x = self.flatten(x)
        x = self.d1(x)
        return self.d2(x)

model = MyModel()

with tf.GradientTape() as tape:
    logits = model(images)
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```